

# Storm Data and Unusual Weather Phenomena

September 2003

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## ALABAMA, Central

NONE REPORTED.

## ALABAMA, North

NONE REPORTED.

## ALABAMA, Southeast

ALZ069

Houston

05 2050EST  
2230EST

0

0

Flood

Three to five inches of rain flooded several roads in Cowarts, Hodgesville and Dothan. Reported by the Houston County EMA.

ALZ067

Henry

05 2055EST  
2200EST

0

0

Flood

Up to three inches of rain flooded some county roads in the southern portion of the county. Reported by the Henry County EMA.

## ALABAMA, Southwest

NONE REPORTED.

## ALASKA, Northern

AKZ220-222>224

Yukon Flats Nearby Uplands - Middle Tanana Valley - Deltana And Tanana - Upr Tanana Vly Fortymile

01 1615AST  
08 1100AST

0

0

Flood

Rainfall of one to three inches over the Yukon-Tanana Uplands and greater Fairbanks Area caused rivers to flood in a few areas:

Zone 222:

The Upper Chena River at mile 37 Chena Hot Springs Road exceeded flood stage with one foot of water on the road on the 2nd. For the Upper Chena River between Chena Hot Springs Road and the Moose Creek Dam, flooding occurred on the morning of the 4th until the afternoon of the 5th. The flood waters were impounded behind the Moose Creek Dam for a while, being released gradually so that Downtown Fairbanks would not experience flooding. The impounding of the water created groundwater flooding of the Steamboat Landing subdivision in North Pole downstream from the Dam, until the morning of the 8th.

Zone 223:

The Salcha River at the Richardson Highway Bridge crested one foot above flood stage early on the morning of the 4th, and was below flood stage by noon that day; flooding occurred at the boat launch at the Richardson Highway bridge, along with large amounts of debris being flushed down the river

Zone 224:

Several cabin owners on the upper Salcha River reported water around numerous structures

The flooding coincided with the opening of moose hunting season and a time when rivers are heavily used by hunters accessing remote areas. The Alaska State Troopers reported several incidences where stranded hunters were plucked from the banks of area rivers. Rescues occurred on the Upper Chena River (zone 222), Birch Creek (zone 220), and on the Yukon River (zone 220). Some vehicles were also flooded on the lower Chatanika (zone 222) as unsuspecting hunters parked close to the rivers edge prior to the rise in water level.

AKZ201>202-202

Western Arctic Coast - Northern Arctic Coast

08 1630AST  
11 0930AST

0

0

Storm Surge

A 978 mb low moving east across the Arctic Ocean north of barrow decelerated after the 8th and circled counter-clockwise, ending up closer to Barrow (zone 202) on the 10th and 11th before finally moving away. Minor beach erosion occurred at Barrow on the 8th, then more substantial erosion occurred at Barrow on the 10th and 11th, with waves 10 to 12 feet on top of a high swell. Roads around Barrow which experienced erosion during the July storm, had further erosion with this event (Stevenson Street and Egasik Street). Some beach erosion occurred at the village of Wainwright (zone 201) during the 10th and 11th.

AKZ222

Middle Tanana Valley

12 0500AST  
13 0900AST

0

0

Flood

An inch of rain fell over the Chena Basin creating high water on the Chena River which produced minor flooding of Chena Hot Springs Road at mile 37.

AKZ226

Ne. Slopes Of The Ern Ak Rng

28 1000AST  
2015AST

0

0

High Wind (G50)

A strong warm front moved north over the Alaska Range and produced south winds gusting to 58 mph through Isabel Pass, as reported by a pilot flying 300 to 400 feet above the ground. Mesonet meteorological stations maintained by the U.S. Army reported occasional wind gusts between 50 and 55 mph.

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## ALASKA, Southeast

NOT RECEIVED.

## ALASKA, Southern **AKZ185**

### **Eastern Aleutians**

**15 1155AST 0 0 High Wind (G73)**  
**1435AST**

A strong high pressure system persisted in the Bering Sea as a low pressure system and the associated front pushed up from the southwest. This resulted in strong gusty wind that peaked at 84 mph between 1155 am to 1235 pm at Dutch Harbor.

## **AKZ131**

### **Nern P.W. Snd**

**18 0015AST 0 0 2.5K High Wind (G60)**  
**0315AST**

Northeast wind gusted to 69 mph shortly after midnight September 18th. a combinations of strong low pressure in the Gulf of Alaska and high pressure over the interior produced the gusty winds. In Valdez a temporary tent was destroyed and a sign for a local restaurant was also destroyed by the gusty winds.

## **AKZ101-125**

### **Anchorage Muni To Bird Creek - Wrn P.W. Snd & Kenai Mtns**

**30 0351AST 0 0 High Wind (G76)**  
**2359AST**

A strong storm moved into the southwest Gulf of Alaska creating strong winds across the Chugach mountains and especially in the channeled terrain of Turnagain arm. The winds resulted in area wide power outages in the Anchorage bowl on out to Girdwood the morning of October first. Winds for this event peaked at 88 mph at McHugh Creek RWIS at 0451 am AST September 30th. Winds peaked at Glenn Alps at 81 mph at 5 pm AST September 30th. The winds at Portage visitor center are an estimated peak of 80 mph occurring at 253 am AST.

## AMERICAN SAMOA

NOT RECEIVED.

## ARIZONA, Central and Northeast

### **Coconino County**

**Doney Park 01 1145MST 0 0 Hail (0.88)**  
**1200MST**

Dime (3/4) to nickel sized (7/8 inch diameter) hail fell in Doney Park.

### **Coconino County**

**Flagstaff 01 1230MST 0 0 Hail (1.00)**

One inch diameter hail fell 10 miles northwest of Flagstaff.

### **Coconino County**

**Flagstaff 01 1240MST 0 0 Hail (1.00)**  
**1245MST**

Quarter sized (1 inch diameter) hail was reported in Hart Prairie. The hail was two to three inches deep after the storm had passed.

### **Coconino County**

**Sedona 01 1510MST 0 0 Hail (1.00)**  
**1525MST**

Quarter sized (1 inch diameter) hail was reported in southeast Sedona.

### **Navajo County**

**Snowflake 01 1520MST 0 0 Hail (0.88)**  
**1535MST**

Nickle sized (7/8 inch diameter) hail fell in western Snowflake.

### **Coconino County**

**Clints Well 01 1635MST 0 0 Flash Flood**  
**1745MST**

Flash flooding covered State Highway 87 with 5 feet of water about 17 miles northeast of Clints Well.

### **Yavapai County**

**Mayer 02 1715MST 0 0 Hail (0.75)**  
**1725MST**

Dime sized (3/4 inch diameter) hail was reported in Mayer.

### **Coconino County**

**Flagstaff 03 1130MST 0 0 Hail (1.00)**

Three-quarter to one inch diameter hail was reported at an elementary school in Flagstaff.

### **Yavapai County**

**Prescott 04 1400MST 0 0 Hail (0.75)**  
**1408MST**

Pea to penny sized (1/4 to 3/4 inch diameter) hail was reported in Highland Pines west of Prescott.

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## ARIZONA, Central and Northeast

### **Yavapai County**

<b>Prescott</b>	<b>05</b>	<b>0001MST</b>			<b>0</b>	<b>0</b>	<b>10K</b>		<b>Lightning</b>
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Lightning struck a radio station in Sedona and caused \$10,000 damage to electrical equipment.

### **Yavapai County**

<b>Prescott</b>	<b>06</b>	<b>0955MST 1010MST</b>			<b>0</b>	<b>0</b>			<b>Hail (0.75)</b>
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Dime sized (3/4 inch diameter) hail was reported in Prescott.

### **Navajo County**

<b>Cibecue to (Sow)Show Low Muni A</b>	<b>06</b>	<b>1530MST 1630MST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
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Flash flooding caused Cibecue creek rise 8 to 10 feet in the town of Cibecue.

### **Yavapai County**

<b>Cordes Junction</b>	<b>07</b>	<b>1730MST 1745MST</b>			<b>0</b>	<b>0</b>			<b>Hail (1.50)</b>
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Half dollar sized (1 1/4 inch diameter) hail was reported 12 miles southeast of Cordes Junction.

### **Gila County**

<b>Roosevelt</b>	<b>09</b>	<b>0245MST 0500MST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
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Persistent heavy rains (up to 10 inches) during the late night and early morning flooded the Pinto Creek and a nearby creek. A wall of water, 4 to 6 feet deep, rushed through Roosevelt Estates. Telephones, electricity and water service was knocked out. The worst of the damage occurred in the southeast portion of the Estates at Pine and Ash Streets. About 200 homes were damaged, and 5 were destroyed. The Roosevelt Lake Resort had considerable water damage, and a rock house on route 288 and the Salt River was damaged by flooding.

### **Coconino County**

<b>Bellemont to Flagstaff</b>	<b>09</b>	<b>0810MST 0815MST</b>	<b>4.5</b>	<b>100</b>	<b>0</b>	<b>0</b>			<b>Tornado (F0)</b>
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A tornado was observed about 2 miles north of the National Weather Service office in Bellemont. The tornado moved northeast through an unpopulated ponderosa pine forest. The tornado crossed several Forest Service roads and Highway 180 and knocked trees across these roads. It is estimated that over a hundred trees were uprooted or snapped off. Some of the trees were over 2 feet in diameter. The tree damage was intermittent along the whole 4 1/2 mile path. Less than 10% of the tornado path had damage.

### **Coconino County**

<b>Tuba City</b>	<b>09</b>	<b>1230MST 1400MST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
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Heavy rain caused significant flooding in and around the town of Tuba City.

### **Navajo County**

<b>White Cone</b>	<b>09</b>	<b>1315MST 1330MST</b>			<b>0</b>	<b>0</b>			<b>Thunderstorm Wind (G50)</b>
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A roof was blown off a building in White Cone.

### **Navajo County**

<b>White Cone</b>	<b>09</b>	<b>1315MST 1400MST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
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Heavy rain and flooding washed out several roads in the White Cone area.

### **Navajo County**

<b>Shonto to Kayenta</b>	<b>09</b>	<b>1640MST 2030MST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
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Several thunderstorms produced heavy rain and flooding between Shonto and Kayenta late in the afternoon. Significant flooding was reported with these storms as they moved through the area. Portions of State Route 98 were washed out near Kayenta. Vehicles were stranded and the people were evacuated.

### **Apache County**

<b>Wide Ruin</b>	<b>09</b>	<b>1850MST 1915MST</b>	<b>1</b>	<b>100</b>	<b>0</b>	<b>0</b>			<b>Tornado (F0)</b>
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A tornado uprooted trees 12 miles west of Wide Ruins.

### **Navajo County**

<b>Polacca</b>	<b>09</b>	<b>1930MST 2030MST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
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Heavy rain cause flash flooding near the community of Polacca. Buses were trapped by the flood waters.

### **Apache County**

<b>Ft Defiance to Chinle</b>	<b>09</b>	<b>2045MST 2300MST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
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A large area of thunderstorms produced flash flooding in Apache county from Fort Defiance north to Chinle.

## Storm Data and Unusual Weather Phenomena

Time Local/	Path Length	Path Width	Number of Persons	Estimated Damage
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Location	Date	Standard	(Miles)	(Yards)	Killed	Injured	Property	Crops	Character of Storm
<b>ARIZONA, Northwest</b>									
<b>Mohave County</b>									
<b>Lake Havasu City</b>	<b>03</b>	<b>2023PST 2235PST</b>		<b>0</b>	<b>1</b>		<b>15K</b>		<b>Flash Flood</b>
		Runoff from heavy rain caused a car to be swept off the road into a wash. One woman inside the car was rescued and taken to a local hospital with undisclosed injuries.							
<b>ARIZONA, South</b>									
<b>Graham County</b>									
<b>Safford</b>	<b>06</b>	<b>1720MST 1840MST</b>		<b>0</b>	<b>0</b>		<b>0</b>	<b>0</b>	<b>Flash Flood</b>
		Thunderstorms developed and moved over southern portions of Safford producing heavy rain. Doppler radar estimated one to three inches of rain had fallen over the area during the storm event. Several properties in the Daley Estates area flooded and police had to barricade some roads due to the flooding.							
<b>Cochise County</b>									
<b>Charleston</b>	<b>06</b>	<b>1820MST 1940MST</b>		<b>0</b>	<b>0</b>		<b>0</b>	<b>0</b>	<b>Flash Flood</b>
		Thunderstorms developed and remained nearly stationary over central portions of Cochise county producing heavy rain. Doppler radar estimated one to three inches of rain had fallen over the area between Tombstone and Charleston. Sherif dispatch closed Charleston Road between the San Pedro River and Tombstone due to flooding.							
<b>Cochise County</b>									
<b>Hereford</b>	<b>08</b>	<b>1355MST 1400MST</b>		<b>0</b>	<b>0</b>		<b>0</b>	<b>0</b>	<b>Hail (0.75)</b>
		A severe thunderstorm developed over the Hereford area producing large hail. A spotter reported hail ranging in size from a half of an inch to three quarters of an inch in diameter.							
<b>Cochise County</b>									
<b>Douglas</b>	<b>08</b>	<b>1530MST 1630MST</b>		<b>0</b>	<b>0</b>		<b>0</b>	<b>0</b>	<b>Flash Flood</b>
		Strong thunderstorms over the town of Douglas produced heavy rain which caused street flooding. A spotter recorded 1.80 inches of rain in less than an hour. Several roads were also closed due to flooding, including an intersection at Golf Course and Washington Avenue that was closed due to a foot of water.							
<b>Pima County</b>									
<b>Tucson</b>	<b>08</b>	<b>1615MST 1620MST</b>		<b>0</b>	<b>0</b>		<b>0</b>	<b>0</b>	<b>Hail (1.00)</b>
		A severe thunderstorm moved across southern portions of Tucson producing large hail. A spotter reported one inch diameter in size hail at Pantano and Golf Links Roads.							
<b>ARIZONA, Southwest</b>									
<b>La Paz County</b>									
<b>Quartzsite</b>	<b>02</b>	<b>1920MST 1930MST</b>		<b>0</b>	<b>0</b>		<b>200K</b>		<b>Thunderstorm Wind (G70)</b>
		Extensive damage in town due to microburst winds. Power poles were knocked down and trailers were overturned. The Desert Gardens Mobile Home and Car Sales sustained the heaviest damage with several mobile homes destroyed.. Signs along I-10 were blown down, and Arizona highway 95 was closed for a short time.							
<b>Maricopa County</b>									
<b>Wickenburg</b>	<b>04</b>	<b>1740MST 1830MST</b>		<b>0</b>	<b>0</b>				<b>Hail (1.00)</b>
		Several reports of large hail, from dime size to one inch diameter, in and near Wickenburg.							
<b>Maricopa County</b>									
<b>Tempe</b>	<b>04</b>	<b>1834MST 1837MST</b>		<b>0</b>	<b>0</b>				<b>Hail (0.75)</b>
<b>Maricopa County</b>									
<b>Phoenix</b>	<b>04</b>	<b>1845MST 1855MST</b>		<b>0</b>	<b>0</b>				<b>Thunderstorm Wind (G60)</b>
		Shingles blown off roof.							
<b>Maricopa County</b>									
<b>Wickenburg</b>	<b>04</b>	<b>1855MST 1930MST</b>		<b>0</b>	<b>0</b>				<b>Flash Flood</b>
		Sols Wash grew to about 150 feet wide, and Flying E Wash was running full. Flooding closed Vulture Mine Road due to flooding.							
<b>Maricopa County</b>									
<b>3 S Waddell</b>	<b>04</b>	<b>1900MST 2100MST</b>		<b>0</b>	<b>2</b>				<b>Flash Flood</b>
		Flash Flooding at the entrance to the White Tank Mountain Regional Park near the intersection of Olive Rd and Citrus Rd. Very heavy rain occurred in the area between 7:00 PM and 9:00 PM MST. A vehicle with two male occupants was swept off of Olive Rd. around							

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## ARIZONA, Southwest

8:30 PM MST. The two occupants attempted to leave the vehicle and were swept down the wash approximately 60 yards. A swift water rescue by law enforcement had to be conducted after they became trapped in rushing water approximately 3 feet deep. The individuals suffered minor injuries (cuts and bruises) as a result of the incident.

### **Maricopa County**

<b>Paradise Vly</b>	<b>06</b>	<b>1410MST</b>			<b>0</b>	<b>0</b>			<b>Thunderstorm Wind (G60)</b>
		<b>1420MST</b>							

Estimated 60 MPH wind gust reported at the intersection of 50th St. and Lincoln Ave. in Paradise Valley.

## ARKANSAS, Central and North Central

### **Izard County**

<b>Guion</b>	<b>02</b>	<b>0536CST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
		<b>0830CST</b>							

### **Izard County**

<b>5 SW Mt Pleasant</b>	<b>02</b>	<b>0625CST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
		<b>0845CST</b>							

### **Izard County**

<b>Countywide</b>	<b>02</b>	<b>0720CST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
		<b>0845CST</b>							

Heavy rains resulted in flash flooding over a large part of Izard County. A number of county roads were covered by high water and closed for several hours after the rains ended.

### **Sharp County**

<b>Ash Flat</b>	<b>02</b>	<b>0650CST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
		<b>1130CST</b>							

### **Sharp County**

<b>Highland</b>	<b>02</b>	<b>0650CST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
		<b>1130CST</b>							

### **Sharp County**

<b>Countywide</b>	<b>02</b>	<b>0745CST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
		<b>1130CST</b>							

Heavy rains caused widespread flooding across Sharp County. A number of highways and county roads were closed due to high water levels. Several vehicles were washed off some roadways. No injuries or damage was reported.

### **Stone County**

<b>Marcella</b>	<b>02</b>	<b>0800CST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
		<b>0930CST</b>							

### **Stone County**

<b>Pleasant Grove</b>	<b>02</b>	<b>0800CST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
		<b>0930CST</b>							

Heavy rains caused flash flooding to occur in and around the towns of Pleasant Grove and Marcella. Several county roads were closed due to high water for a short period of time.

### **Ouachita County**

<b>Camden</b>	<b>11</b>	<b>1800CST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
		<b>2000CST</b>							

Heavy rains resulted in flash flooding in Camden. Several roads in town were under water for a few hours.

## ARKANSAS, East

### **Randolph County**

<b>Countywide</b>	<b>02</b>	<b>0945CST</b>			<b>0</b>	<b>0</b>	<b>1K</b>		<b>Flash Flood</b>
		<b>1100CST</b>							

Several roads became impassable due to flooding.

## ARKANSAS, Northwest

NONE REPORTED.

## ARKANSAS, Southeast

NONE REPORTED.

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## ARKANSAS, Southwest

NONE REPORTED.

## CALIFORNIA, Extreme Southeast

NONE REPORTED.

## CALIFORNIA, North Central

NONE REPORTED.

## CALIFORNIA, Northeast

### El Dorado County

Meeks Bay	04	1340PST			0	0			Hail (1.00)
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One inch hail reported near Meeks Bay by U.S. Coast Guard.

### Plumas County

Beckwourth	04	1530PST			0	0			Hail (1.00)
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Reported by spotter.

## CALIFORNIA, Northwest

### Humboldt County

3 SW Weott	03	0700PST			0	0			Wildfire
	30	1159PST							

Honeydew/Canoe Complex

### Mendocino County

10 NE Covelo	03	0700PST			0	0			Wildfire
	12	1200PST							

Covelo Complex

### Trinity County

4 E Del Loma	03	0700PST			0	0			Wildfire
	22	1200PST							

Loma Fire

Lightning sparked numerous fire across Humboldt, Trinity, and Mendocino Counties. The fires grew rapidly in the dry, windy conditions. Over 50 total fires were ignited. By September 30, approximately 26,000 acres were burned. The largest fire was the Honeydew/Canoe Complex near Weott with 22,000 acres burned at the end of the month. The Loma Fire burned 3740 acres and was contained on September 22. The Covelo Complex near Covelo burned 240 acres and was contained on September 12. At the end of September, only the Honeydew/Canoe Complex was not yet fully contained.

### Trinity County

8 E Forest Glen	04	1640PST			0	0			Hail (0.75)
		1650PST							

## CALIFORNIA, South Central

### Mariposa County

25 N Yosemite Vlg	01	0000PST			0	0			Wildfire
	30	2359PST							

The Kibbee Complex fire, having started July 20th by lightning, burned through the month of September as a resource burn. By the end of the month it had reached 9,230 acres and had an accumulated cost of \$2M.

### Tulare County

14 E Wilsonia	01	0000PST			0	0			Wildfire
	30	2359PST							

The Kaweah-Kern Complex of fires were essentially started July 28th and allowed to continue to burn as resource fires through the month of September. Fires within this complex included Williams, West Kern, Giant, Slide Bluffs, Bubbs, West Clover, High Bridge, East Fork, West Timber, Tar Gap 1, Tar Gap 2, Fry Pan, Soda Springs, and Paradise 2. Acreage burned: 5790 acres in Sequoia-Kings Canyon National Park; 2245 acres in the Sequoia National Forest; and, 435 acres in the Inyo National Forest. As of September 30th, the cost was \$530.2K.

### Mariposa County

2 N Yosemite Vlg	01	0000PST			0	0			Wildfire
	30	2359PST							

The Duncan Complex Fire was ignited by lightning in July, and allowed to continue to burn through September as a resource burn. By the end of September it had consumed 1284 acres at an accumulated cost of \$100K.

### Kern County

1 S Edwards Afb to 3 N Edwards Afb	02	1650PST 1715PST			0	0	1K		Thunderstorm Wind (G46)
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Time Lost/ Length	Path	Path Width	Number of Persons	Estimated Damage
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September 2003									
Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed Injured		Estimated Damage Property Crops	Character of Storm	
<b>CALIFORNIA, South Central</b>									
<b>Tulare County</b>									
Johnsondale to California Hot Spgs	02	2200PST 2300PST			0	0		Lightning	
<b>Tulare County</b>									
Sequoia National Par	03	0000PST 0600PST			0	0		Lightning	
A large amount of convective activity developed in the Kern Desert areas late in the afternoon of the 2nd. Spotter reports indicated at least a couple of microbursts in and around Edwards AFB just before 5 PM PST as some minor damage was reported in Rosamond and strong, gusty winds occurred later at meso-net sites northwest and north of Edwards. Nearly 50 lightning strikes were reported as thunderstorm activity moved from the Kern Deserts into the Kern Mountains and Tulare County Mountains by late evening. Over 14 fires were started by lightning strikes on the 2nd and 3rd of September in the Sequoia-Kings National Park area of the Tulare County Mountains.									
<b>Madera County</b>									
8 SW Mammoth Mount:	03 30	0000PST 2359PST			0	0	64K	Wildfire	
The Cargyle Complex Fire was ignited by lightning on the 3rd and allowed to burn through the month for resource benefits. By the end of the month it had burned 717 acres at a cost of \$64K.									
<b>Mariposa County</b>									
7 NW Yosemite Vlg	03	1012PST 1712PST			0	0		Heavy Rain	
<b>Fresno County</b>									
5 N Huntington Lake to 7 N Huntington Lake	03	1453PST 1515PST			0	0		Heavy Rain	
From widespread afternoon thunderstorm activity over the Southern Sierra Nevada and Tulare County Mountains, locally heavy rain showers occurred the afternoon of the 3rd. From White Wolf RAWS 1.86" of rain occurred within a 6 hour time period. A strong thunderstorm developed north of Huntington Lake but no damage was reported in this remote area.									
<b>Kern County</b>									
Bodfish to 4 SE Weldon	03	1636PST 2100PST			0	0	10K	Heavy Rain	
<b>Kern County</b>									
Democrat Spgs	03	1646PST 1715PST			0	0		Lightning	
<b>Kern County</b>									
Lake Isabella	03	1646PST 1715PST			0	0	15K	Hail (0.01)	
<b>CAZ097</b>									
	Tulare Cty Mtns 03	1729PST 2018PST			0	0		Landslide	
During the late afternoon of the 3rd convective activity brought a variety of threatening weather to the Lake Isabella area of Kern County and northward into the Tulare County Mountains. A severe thunderstorm with radar reflectivity of 70 dBz and a VIL of 53 hailed and damaged cars at the town of Lake Isabella. Dry lightning strikes occurred to the west of town near Democrat and rock slides occurred onto the road north of Kernville due to locally heavy rains. Urban and small stream flooding caused damage to a house in Bodfish, water ponded uniformly 2 inches deep in Lake Isabella, and roads were closed southeast of Weldon due to water on the roadway.									
<b>Tulare County</b>									
45 E Porterville	03 30	1700PST 2359PST			0	0		Wildfire	
The Albanita/Hooker Fire in Sequoia National Forest was lightning ignited on the 3rd. It burned 175 acres by the 30th as it was allowed to burn for resource benefits. No injuries were reported nor was any structure lost.									
<b>Tulare County</b>									
40 E Visalia	05 30	1200PST 2359PST			0	0	824K	Wildfire	
Homers Nose 2 Fire in the Sequoia-Kings Canyon Park was lightning ignited on the 5th and allowed to burn throughout the month. As of the 30th, it had consumed 230 acres at a cost of \$824K with no fatalities or injuries nor structures lost.									
<b>CAZ098</b>									
	Indian Wells Vly 09	1700PST 2200PST			0	0	1K	Strong Wind	
Gusty wind swept over the Kern Desert areas on the 9th with wind speeds commonly reported 35 to 45 MPH but higher speeds over 50 MPH did occur during the evening hours.									

# Storm Data and Unusual Weather Phenomena

September 2003

September 2003									
		Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		
Location	Date				Killed	Injured	Property	Crops	Character of Storm

## CALIFORNIA, South Central

### **Tulare County**

**60 ESE Porterville**      **15**      **1121PST**      **0**      **0**      **460.6K**      **Wildfire**  
**17**      **1600PST**

The Michael Fire had an unknown ignition near Chimney Peak in southeast Tulare County. It consumed 388 acres at a cost of \$460K. No fatalities occurred nor were structures lost.

## CALIFORNIA, Southeast

### **San Bernardino County**

**Twenty Nine Palms**      **04**      **1430PST**      **0**      **0**      **50K**      **Hail (0.01)**  
**1445PST**

A severe thunderstorm produced golf ball sized hail in Twentynine Palms.

## CALIFORNIA, Southwest

### **Riverside County**

**3 N Moreno Valley**      **02**      **1030PST**      **0**      **0**      **Wildfire**  
**1248PST**

A brush fire burned 10 acres in the northern edge of Moreno Valley before being fully contained. Several residences were threatened but no property damage or injuries occurred.

### **San Bernardino County**

**1 NW Yucca Vly to**      **02**      **1318PST**      **0**      **0**      **60K**      **Flash Flood**  
**1 SE Lcrne Vly Soggy**      **1414PST**  
**Dry**

Several roads underwater and/or washed out. Washes running full.

### **Riverside County**

**13 SW Palm Spgs**      **02**      **1415PST**      **0**      **0**      **Flash Flood**  
**1500PST**

One channel of Palm Canyon Wash flooded.

### **San Diego County**

**Descanso**      **02**      **1425PST**      **0**      **0**      **Hail (1.25)**  
**1430PST**

### **San Diego County**

**2 NE Santa Ysabel to**      **02**      **1425PST**      **0**      **0**      **50K**      **Flash Flood**  
**8 W Julian**      **1430PST**

Heavy rain caused flooding and mudslides across Highway 79 and Mesa Grande Road. At about the same time, large hail was observed farther south in Descanso.

### **San Diego County**

**2.5 SE Santa Ysabel to**      **02**      **1455PST**      **0**      **0**      **Lightning**  
**3.5 E La Mesa**      **1505PST**

Lightning started six separate fires, but fire fighters and heavy rains put them out before any major damage occurred.

### **San Diego County**

**2 W La Mesa**      **02**      **1530PST**      **0**      **0**      **10K**      **Flash Flood**  
**1600PST**

West bound lanes of Interstate 8 near College Avenue were flooded.

### **Riverside County**

**5 NE Indio**      **02**      **1736PST**      **0**      **0**      **Flash Flood**  
**1810PST**

Large flood coming from hills, heading toward Indio Hills subdivision.

### **Riverside County**

**3 E (Ral)Riverside Mun**      **03**      **1106PST**      **0**      **0**      **50K**      **Wildfire**  
**1200PST**

A brush fire burned power lines and self-storage units along Highway 91 just north of Central Avenue.

### **San Bernardino County**

**1.5 S Phelan**      **03**      **1318PST**      **0**      **0**      **Heavy Rain**

Visibility near zero, standing water on Highway 138.





# Storm Data and Unusual Weather Phenomena

September 2003

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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## **CALIFORNIA, Southwest**

### **San Diego County**

1 NE Santa Ysabel to  
4 NE Borrego Spgs

04

1704PST  
1851PST

0

0

60K

Flash Flood

Flash floods covered main roads and highways with mud and water from Santa Ysabel to east of Borrego Springs.

### **Riverside County**

Anza

05

1235PST  
1315PST

0

0

20K

Flash Flood

Extensive flooding was reported in and around Anza after 2.5 inches of rain fell in 65 minutes. Wind gusts were measured at 50 mph, and 0.5 inch diameter hail was also observed.

### **San Diego County**

3 E Palomar Mtn to  
Warner Spgs

05

1330PST  
1400PST

0

0

Flash Flood

Flooding was observed between Palomar Mountains and Warner Springs.

### **San Bernardino County**

5 NE Highland to  
1.5 SE Lake Arrowhead

05

1404PST  
1404PST

0

9

200K

Wildfire

Named the Bridge fire, it burned 1352 acres before being fully contained. It forced the evacuation of the towns of Fredalba, Smiley Park, Nob Hill, Enchanted Forest, and part of Running Springs, affecting more than 1000 residents. The main highways, 330 and 18, were closed for several days. Property damage was contained to guardrails, power lines, and traffic signs along the highway corridors, in addition to one out building. Cost of fighting the fire were in excess of \$2.3 million dollars.

### **San Bernardino County**

2 SW Loma Linda to  
2 S Loma Linda

12

1500PST  
0100PST

0

0

Wildfire

A brush fire consumed 175 acres before being controlled. No homes or structures were endangered and no injuries were reported.

### **San Bernardino County**

6 S Hesperia

17

1240PST  
1445PST

0

0

Wildfire

A brush fire consumed 40 acres and briefly threatened several homes in the Oak Hills subdivision of Hesperia. Lack of winds helped firefighters contain the blaze in a short period of time.

### **Riverside County**

1 NW Beaumont to  
2 W Beaumont

23

0928PST  
1100PST

0

0

Wildfire

A brush fire, combined with east winds gusting bear 30 mph, burned 110 acres in a dry wash. Homes were threatened along Elm Avenue near Oak Valley Parkway and in Three Rings Ranch Project.

## **CALIFORNIA, Upper**

### **Modoc County**

Countywide

03

1200PST  
2045PST

0

0

Lightning

### **Siskiyou County**

Countywide

03

1200PST  
2045PST

0

0

Lightning

See below.

A Red Flag Warning was issued for all of southern Oregon due to a line of thunderstorms approaching from the south containing dry lightning. The line weakened before arrival, but a number of strikes did occur over northern California. However, verification was marginal as the lightning strikes may have not been widespread enough to verify the Red Flag Warning.

### **Siskiyou County**

Countywide

12

0632PST  
1105PST

0

0

Wildfire

See below.

A Red Flag Warning was issued effective at the above times for fire weather zones 280, which includes western Siskiyou county. Strong offshore winds were expected. The strong winds occurred on the first night...but relative humidity recoveries were high enough not to verify the warning in most areas. The second night the winds abated but the recoveries were poor.

The Slater Butte RAWs and the Collins Baldy RAWs verified the warning on both nights. This was a strong offshore event and a critical fire weather pattern, so the warning was justified as far as the fire weather agencies were concerned.

# Storm Data and Unusual Weather Phenomena

September 2003

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage	Property	Crops	Character of Storm
Killed	Injured									

## CALIFORNIA, Upper

CAZ084>085

**Northeast Siskiyou And Northwest Modoc Counties - Modoc County**

15 1452PST

0 0

Frost/Freeze

16 0800PST

See below.

A Frost Warning was issued for the above zones the night of 09/15-16. Reported low temperatures ranged from 34 to 47...some some local frost likely did form this night...but not widespread frost.

CAZ084>085

**Northeast Siskiyou And Northwest Modoc Counties - Modoc County**

16 0300PST

0 0

Frost/Freeze

17 0800PST

See below.

A Frost Warning was issued for the above zones the night of 09/16-17. Reported low temperatures ranged from 22 to 31...so a killing frost likely occurred this night.

CAZ084>085

**Northeast Siskiyou And Northwest Modoc Counties - Modoc County**

17 1445PST

0 0

Frost/Freeze

18 0800PST

See below.

A Frost Warning was issued for the above zones the night of 09/17-18. Reported low temperatures ranged from 24 to 37...so a killing frost likely occurred this night.

**Siskiyou County**

Countywide

21 0635PST

0 0

Wildfire

23 0610PST

See below.

A Red Flag Warning was issued effective at the above times for Fire Weather zone 280, which covers Western Siskiyou county. This warning verified at several RAWS stations in the area, including Slater Butte, Blue Ridge, and Collins Baldy.

## CALIFORNIA, West South Central

**Los Angeles County**

7 ESE Pearblossom

03 1300PST

0 0

Flash Flood

1330PST

Strong monsoonal thunderstorms moved across the Antelope Valley, producing heavy and flash flooding. Along Largo Vista Road, seven miles ESE of Pearblossom, flash flooding was reported. Due to the flash flooding, one vehicle was stranded and abandoned.

## CALIFORNIA, Western

NONE REPORTED.

## CARIBBEAN SEA AND TROPICAL ATLANTIC

**Cp Fear To Little R**

**Inlet Nc Out 20Nm**

2 SW Shallotte Inlet to

1 SW Shallotte Inlet

01 1340EST

0 0

Waterspout

1350EST

Brunswick 911 reported a waterspout a mile offshore of Ocean Isle Beach. The waterspout moved northeast...parallel to shore before dissipating.

**Jupiter Inlet To**

**Deerfield Beach Fl 20**

**To 60Nm**

5 NE Boca Raton

05 1300EST

0 0

Waterspout

The Beach Patrol saw a large waterspout in the Atlantic about two and one half miles offshore of Delray Beach. The waterspout moved slowly west before dissipating about one half mile offshore.

**Deerfield Beach To**

**Ocean Reef Fl**

17 SE Port Everglades

08 1110EST

0 0

Waterspout

A pilot saw a waterspout in the Atlantic.

**Jupiter Inlet To**

**Deerfield Beach Fl 20**

**To 60Nm**

10 SE Port Of Palm Beach

13 0900EST

0 0

Waterspout

A pilot and the public reported a waterspout in the Atlantic about 5 miles east of Lake Worth.

**Jupiter Inlet To**

**Deerfield Beach Fl 20**

**To 60Nm**

12 NNE Boca Raton

19 0756EST

0 0

Waterspout

The public reported a waterspout in the Atlantic one mile east of Boynton Beach.

# Storm Data and Unusual Weather Phenomena

September 2003

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## CARIBBEAN SEA AND TROPICAL ATLANTIC

### Jupiter Inlet To

### Deerfield Beach Fl 20

### To 60Nm

15 ESE Port Of Palm Be	19	1524EST			0	0			Waterspout
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A SKYWARN spotter saw a waterspout in the Atlantic 15 miles offshore.

### Carib Waters E Cst Pr

### Thru Usvi

Christiansted Harbor	21	1213AST 1227AST			0	0			Waterspout
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A waterspout was reported by a pilot flying in the vicinity of St Thomas.

### Jupiter Inlet To

### Deerfield Beach Fl 20

### To 60Nm

15 E Boca Raton	25	0800EST			0	0			Waterspout
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A waterspout was seen in the Atlantic.

### St Augustine To Flagler

### Beach Fl Out 20Nm

5 ESE Flagler Beach	26	1025EST 1035EST			0	0			Waterspout
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Spotted by Flagler County Sheriffs Officer, nearly stationary.

### Jupiter Inlet To

### Deerfield Beach Fl 20

### To 60Nm

10 E Port Of Palm Beach	26	1657EST			0	0			Waterspout
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A SKYWARN spotter saw a waterspout in the Atlantic 10 miles offshore Palm Beach Shores.

### Deerfield Beach To

### Ocean Reef Fl

6 SE Government Cut	29	1700EST			0	0			Marine Tstm Wind
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Fowey Rocks C-Man measured a thunderstorm wind of 35 knots.

### Jupiter Inlet To

### Deerfield Beach Fl 20

### To 60Nm

3 E Port Of Palm Beach	30	1703EST			0	0			Waterspout
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A waterspout was seen in the Atlantic offshore Palm Beach.

## COLORADO, Central and Northeast

### Clear Creek County

Idaho Spgs	03	1315MST 1500MST			0	0	0		Flash Flood
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Very heavy rain washed out parts of Virginia Canyon Road near Idaho Springs. Up to 4 feet of mud reportedly washed down the road during the storm. Several vehicles were stuck on the road. In Idaho Springs, several streets including the main street, were also buried by mud and gravel. Some buildings in town also experienced minor flooding, including the basement of the town library and the police station.

## COLORADO, East Central

NONE REPORTED.

## COLORADO, South Central and Southeast

### Fremont County

8 ESE Penrose to 10 ESE Penrose	05	1647MST 1703MST	2	75	0	0			Tornado (F0)
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A weak tornado over open country of extreme eastern Fremont county caused no known damage. It passed into extreme western Pueblo county.

### Pueblo County

10 WNW Pueblo West to 9 WNW Pueblo West	05	1703MST 1710MST	1	75	0	0			Tornado (F0)
--------------------------------------------	----	--------------------	---	----	---	---	--	--	--------------

A weak tornado over open country of extreme western Pueblo county caused no known damage. It was the tornado that originated in extreme eastern Fremont county.

# Storm Data and Unusual Weather Phenomena

September 2003

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## **COLORADO, West**

**COZ001>014-017>023** Lower Yampa River Basin - Central Yampa River Basin - Roan And Tavaputs Plateaus - Elkhead And Park Mountains - Upper Yampa River Basin - Grand Valley - Debeque To Silt Corridor - Central Colorado River Basin - Grand And Battlement Mesas - Gore And Elk Mountains/Central Mountain Valleys - Central Gunnison And Uncompahgre River Basin - West Elk And Sawatch Mountains - Flattop Mountains - Upper Gunnison River Valley - Uncompahgre Plateau And Dallas Divide - Northwestern San Juan Mountains - Southwestern San Juan Mountains - Paradox Valley / Lower Dolores River Basin - Four Corners / Upper Dolores River Basin - Animas River Basin - San Juan River Basin

**01 0000MST 2359MST 0 0 Drought**

Precipitation across western Colorado during the first half of the month resulted in some drought relief across southwest Colorado and portions of northwest Colorado. However, severe to extreme drought conditions continued through the month across western Colorado. See the October 2003 Storm Data publication for a continuation on this drought situation.

### **San Miguel County 9 N Egnar**

**04 1500MST 1530MST 0 0 Heavy Rain**

Very heavy rain caused dry washes to run full for 15 to 30 minutes.

### **Montrose County 7 SE Montrose**

**05 1620MST 1640MST 0 0 Heavy Rain**

0.75 of an inch of rain fell in 20 minutes and resulted in minor flooding.

### **Montezuma County Stoner**

**06 1230MST 1240MST 0 0 Heavy Rain**

0.50 of an inch of rain fell within 10 minutes and resulted in minor flooding.

### **La Plata County 6 N Durango to 10 N Durango**

**06 1305MST 1500MST 0 0 Flash Flood**

Runoff from heavy rain over the Missionary Ridge Fire burned area resulted in 6 to 10 inches of water flowing across portions of Highway 250. A rollover vehicle accident resulted from debris being washed onto the road.

### **Pitkin County 10 NNW Redstone to 10 N Redstone**

**06 1600MST 1700MST 0 0 Heavy Rain**

Heavy rainfall resulted in a mud flow which covered the North Thompson Creek Road. A truck got stuck in the mud. Due to safety concerns, road crews were unable to begin clearing the road until more than 24 hours later.

### **Garfield County 1 N Carbondale**

**06 1630MST 1635MST 0 0 2K Heavy Rain**

Heavy rainfall resulted in two rock slides which blocked the intersection of Highway 82 and Highway 133. The largest boulders that landed on the road were up to 3 feet in diameter.

### **Mesa County Mesa**

**08 1805MST 1810MST 0 0 Hail (0.75)**

### **Garfield County Glenwood Spgs**

**08 1825MST 1835MST 0 0 Hail (0.75)**

## **COZ008**

### **Central Colorado River Basin**

**08 1900MST 1905MST 0 0 Landslide**

Heavy rain caused mud slides onto Interstate 70 about eight to ten miles east of Glenwood Springs between mile markers 124 and 126. Both east bound and west bound lanes of the interstate were closed for a couple of hours.

### **La Plata County La Plata Co Arpt**

**09 0700MST 1900MST 0 0 Heavy Rain**

A potent storm system brought copious amounts of moisture to southwest Colorado resulting in near record rainfall across portions of La Plata County. The AWOS at the Durango-La Plata County Airport recorded 3.58 inches of rain in the 12 hour period from 0700 to 1900. Minor flooding occurred 2 miles northeast of the airport near the intersection of Highway 172 and County Road 311.

# Storm Data and Unusual Weather Phenomena

September 2003

September 2003									
Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
<b><u>COLORADO, West</u></b>									
<b>Montezuma County</b>									
24 SW Cortez	09	1030MST 1100MST			0	0			Flash Flood
Two cars became stuck in deep mud flows as flash flooding inundated Highway 491 near mile marker 1.									
<b>La Plata County</b>									
9 N Durango to 7 N Bayfield	09	1115MST 2300MST			0	0			Flash Flood
A potent storm system brought copious amounts of rainfall to much of La Plata County resulting in widespread flash flooding and debris flows in and around the Missionary Ridge Fire burned area. County Road 250 was closed due to mud and debris flows, up to 9 feet deep in some places. Water and debris flows estimated at 1800 CFS occurred in Stevens Creek. Flash flooding near Freed Canyon resulted in debris flows 3 feet deep. Debris flows 1 to 2 feet deep occurred near Haflin Creek. County Road 501 was also closed due to mud and debris flows.									
<b>COZ019</b>									
<b>Southwestern San Juan Mountains</b>									
	09 10	1200MST 0600MST			0	0			Winter Weather/Mix
The Pacific weather system that brought heavy rainfall to the lower elevations of southwest Colorado also resulted in the first significant snow event of the season for the southwest San Juan Mountains. Snowfall amounts of 4 to 10 inches were reported above the 9000 foot level where tire chain laws went into effect.									
<b>La Plata County</b>									
9 W Durango	09	1300MST 2300MST			0	0			Flash Flood
Water up to 12 inches deep flowed across roads in the area.									
<b>La Plata County</b>									
Hesperus	09	1300MST 1400MST			0	0			Heavy Rain
Heavy rainfall resulted in street flooding in the Hesperus area.									
<b>San Miguel County</b>									
2 SE Placerville	09	1530MST 1730MST			0	0			Flash Flood
Heavy rain caused a rapid flow of water and debris which deposited mud 10 inches deep along a 30 foot stretch of Highway 145 near mile marker 82.									
<b>Montezuma County</b>									
Yellow Jacket to Pleasant View	09	1735MST 1745MST			0	0	12K	100K	Hail (1.50)
Large hail destroyed many acres of crops. The hail also damaged many fruit trees, as well as rural houses and farm buildings.									
<b>Dolores County</b>									
8 S Dove Creek to 7 SW Dove Creek	09	1750MST 1800MST			0	0	5K	30K	Hail (1.00)
Large hail destroyed several hundred acres of pinto beans. Rural houses and farm buildings were also damaged.									
<b>Montezuma County</b>									
Cortez to 5 SW Cortez	09	1900MST 2300MST			0	0	10K		Flash Flood
Flash flood waters one foot deep flowed through streets in Cortez. And a road at the Cortez Municipal Airport was washed out.									
<b>Montezuma County</b>									
8 W Cortez	09	1900MST 2300MST			0	0	20K		Flash Flood
Flash flood waters washed out several roads in the McElmo Canyon area.									
<b>Pitkin County</b>									
6 N Redstone	09	2038MST 2043MST			0	0			Hail (1.00)
<b>Mesa County</b>									
1 NW Fruita	10	0358MST 0408MST			0	0			Hail (0.88)
<b>Mesa County</b>									
Redlands	10	0400MST 0405MST			0	0			Hail (0.88)

## Storm Data and Unusual Weather Phenomena

Time Lost/ Length	Path	Path Width	Number of Persons	Estimated Damage
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Location	Date	Standard	(Miles)	(Yards)	Killed	Injured	Property	Crops	Character of Storm
<b>COLORADO, West</b>									
<b>Garfield County</b>									
<b>Glenwood Spgs</b>	<b>10</b>	<b>0630MST</b> <b>0730MST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
		A strong storm system brought moderate to heavy rain to eastern Garfield County resulting in mud and debris flows onto Highway 82 near the Glenwood Springs city limits. Mud flows also occurred in the Mitchell Creek area 3 miles northwest of Glenwood Springs.							
<b>COZ004-009&gt;010-012&gt;013-018</b>		<b>Elkhead And Park Mountains - Grand And Battlement Mesas - Gore And Elk Mountains/Central Mountain Valleys - West Elk And Sawatch Mountains - Flattop Mountains - Northwestern San Juan Mountains</b>							
	<b>10</b>	<b>0830MST</b>			<b>0</b>	<b>0</b>			<b>Winter Weather/Mix</b>
	<b>11</b>	<b>0330MST</b>							
		A strong winter-like Pacific storm system brought the first significant snow event of the season for many mountain areas above the 8500 foot level in western Colorado. Widespread snowfall accumulations ranged from 3 to 10 inches with locally higher amounts. The Wilson Range southwest of Telluride received 18 inches. And 12 to 13 inches of new snow were reported on Red Mountain Pass, Imogene Pass, and at Gothic near Crested Butte.							
<b>Mesa County</b>									
<b>Fruitvale</b>	<b>10</b>	<b>1244MST</b> <b>1254MST</b>			<b>0</b>	<b>0</b>			<b>Hail (0.88)</b>
<b>Mesa County</b>									
<b>5 N Mack</b>	<b>10</b>	<b>1300MST</b> <b>1308MST</b>			<b>0</b>	<b>0</b>	<b>10K</b>		<b>Hail (1.00)</b>
<b>Mesa County</b>									
<b>5 N Fruita</b>	<b>10</b>	<b>1330MST</b> <b>1430MST</b>			<b>0</b>	<b>0</b>			<b>Heavy Rain</b>
		Heavy rainfall resulted in minor flooding.							
<b>Mesa County</b>									
<b>5 N Fruita</b>	<b>10</b>	<b>1338MST</b> <b>1348MST</b>			<b>0</b>	<b>0</b>	<b>10K</b>		<b>Hail (1.00)</b>
<b>Mesa County</b>									
<b>Clifton</b>	<b>10</b>	<b>1405MST</b> <b>1415MST</b>			<b>0</b>	<b>0</b>			<b>Hail (0.75)</b>
<b>Mesa County</b>									
<b>4 ENE Fruita to 6 NNE Fruita</b>	<b>10</b>	<b>1500MST</b> <b>1600MST</b>			<b>0</b>	<b>0</b>			<b>Heavy Rain</b>
		Heavy rains resulted in minor flooding in the Adobe Creek Subdivision and along the East Salt Creek. Water inundated corrals on the west bank of the East Salt Creek and water was up to the bottom of a bridge on "O" Road, just west of 19 Road. One inch of water flowed into a home near the intersection of 19 Road and "O" Road.							
<b>COZ014</b>		<b>Upper Gunnison River Valley</b>							
	<b>12</b>	<b>0400MST</b> <b>0800MST</b>			<b>0</b>	<b>0</b>			<b>Frost/Freeze</b>
		A strong winter-like cold front ushered in an unseasonably cold air mass which resulted in widespread freezing temperatures in the upper Gunnison River Valley. Automated sensors and cooperative observers reported minimum temperatures that ranged from the lower 20s to 32 degrees.							
<b>COZ001&gt;002-005-007&gt;008-021-023</b>		<b>Lower Yampa River Basin - Central Yampa River Basin - Upper Yampa River Basin - Debeque To Silt Corridor - Central Colorado River Basin - Four Corners / Upper Dolores River Basin - San Juan River Basin</b>							
	<b>14</b>	<b>0100MST</b> <b>0800MST</b>			<b>0</b>	<b>0</b>			<b>Frost/Freeze</b>
		A cold air mass settled over western Colorado resulting in widespread freezing temperatures across many of the valleys. Automated and cooperative observer reports indicated minimum temperatures ranging from the mid 20s to 32 degrees.							
<b>COZ003-006&gt;008-011-017-020</b>		<b>Roan And Tavaputs Plateaus - Grand Valley - Debeque To Silt Corridor - Central Colorado River Basin - Central Gunnison And Uncompahgre River Basin - Uncompahgre Plateau And Dallas Divide - Paradox Valley / Lower Dolores River Basin</b>							
	<b>17</b>	<b>1053MST</b> <b>1800MST</b>			<b>0</b>	<b>0</b>	<b>14K</b>		<b>Strong Wind</b>
		Strong winds developed across western Colorado as a dry cold front moved through the area. A 60 foot tall tree with a 4 foot diameter trunk was toppled by the wind in the Grand Valley. Minor wind damage also occurred in other areas.							

# Storm Data and Unusual Weather Phenomena

September 2003

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## CONNECTICUT, Northeast

### Hartford County

Berlin to  
Hartford

28

0900EST  
1800EST

0

0

25K

Flash Flood

Significant urban flooding affected central Hartford County, after nearly 4 inches of rain fell in a few hours. Several cars were stranded in Berlin and West Hartford, and Willow Brook rose out of its banks in New Britain, flooding a nearby park.

## CONNECTICUT, Northwest

### Litchfield County

Salisbury

23

0909EST

0

0

Thunderstorm Wind (G60)

### Litchfield County

Washington

23

0931EST

0

0

Thunderstorm Wind (G60)

A strong cold front produced a line of showers and thunderstorms across northwestern Connecticut during the morning of September 23. One of the storms became severe as it moved across Litchfield County. Thunderstorm winds brought down numerous trees and power lines on Whitehollow Road in the town of Salisbury. About twenty minutes later, more powerlines were knocked down on Baldwin Hill Road in the town of Washington.

## CONNECTICUT, Southern

NOT RECEIVED.

## DELAWARE

### New Castle County

North Portion

15

0543EST

0

1

16.1M

Flash Flood

16 2234EST

Remnant moisture from Tropical Storm Henri produced copious amounts of rain during the early morning of the 15th across northern New Castle County and hit Mill Creek Hundred in the northwest part of the county the hardest. Thunderstorms with torrential downpours moved from south to north across the same areas and produced one to ten inches of rain across the region with the heaviest amounts around Hockessin. The worst flood damage occurred in the Glenville area of Mill Creek Hundred where 194 homes suffered flood damage. Numerous people were rescued from trapped vehicles. People were rescued from their flooded homes, including one person who was rescued from his roof. The Red Clay Creek at Wooddale had the highest recorded crest on record when it crested at 17.27 feet at 1230 p.m. EDT on the 15th. Flood stage is 5.5 feet. Farther downstream at Stanton, the creek rose above the gage house. The White Clay Creek at Delaware Park had its 4th highest crest of record when it crested at 16.78 feet at 345 p.m. EDT on the 15th. Flood stage is 13 feet. Other gage and rivers that flooded included the Christina River at Coochs Bridge (crest of 11.57 feet at 130 p.m. EDT on the 15th. Flood stage is 9 feet.) and the Brandywine Creek at Wilmington (crest of 12.73 feet at 845 p.m. EDT on the 15th. Flood stage is 11 feet.). Storm totals included 9.02 inches in Hockessin.

### DEZ004

#### Delaware Beaches

18

0600EST

0

0

0

Heavy Surf/High Surf

20

1800EST

### Sussex County

Countywide

18

1100EST  
2300EST

0

0

Heavy Rain

### Kent County

Countywide

18

1200EST  
0000EST

0

0

Heavy Rain

### DEZ001>004

#### New Castle - Kent - Inland Sussex - Delaware Beaches

18

1300EST

0

0

Storm Surge

19

1600EST

### New Castle County

Countywide

18

1300EST  
0100EST

0

0

Heavy Rain

### DEZ002>004

#### Kent - Inland Sussex - Delaware Beaches

18

1500EST

0

0

17.8M

Tropical Storm

19

0500EST

### DEZ001

#### New Castle

18

1600EST

0

0

9.5M

High Wind (G50)

19

0500EST



# Storm Data and Unusual Weather Phenomena

September 2003

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## DELAWARE

### New Castle County

#### North Portion

18	2027EST				0	0			Flash Flood
19	0628EST								

Tropical Storm Isabel caused tidal flooding up Delaware Bay, heavy rain and strong power outage producing winds. Isabel made landfall as a hurricane near Drum Inlet, North Carolina around 100 p.m. EDT on the 18th and weakened as it tracked farther inland. At one time in its life cycle, it was a powerful Category 5 hurricane when it was north of the Leewood Islands. Isabel's track took it west of Chesapeake Bay and was able to funnel water into the bay. This caused flooding along coastal areas all the way into New Castle County. Rivers and streams in New Castle County flooded from two fronts: from the heavy rain inland and also from the storm surge. The tide at Reedy Point reached 8.66 feet above mean lower low water at 506 a.m. EDT on the 19th. The surge was about 5 feet. The surge funneled up the bay and was lower and occurred earlier close to the coast. The highest tide at Lewes (Sussex County) was 6.51 feet above mean lower low water at 324 p.m. EDT on the 18th. The heavy rain did not coincide with the tidal flooding and occurred mainly from the afternoon of the 18th into the early morning of the 19th. Nevertheless, runoff from streams in New Castle County were slowed because of the incoming storm surge. While tides barely reached minor tidal levels along the ocean, the wave action on top of the tide caused beach erosion. Dunes were breached on the ocean front south of South Bethany and water overwashed onto Delaware State Route 1 in several locations. Winds gusted up to 70 mph and caused numerous trees, tree limbs and power lines to be knocked down. This was one of the worst power outage events in history for Conectiv Energy.

The Christina River at Coochs Bridge (New Castle County) was above its 9 foot flood stage from 927 p.m. EDT on the 18th through 612 a.m. EDT on the 19th. It crested at 11.38 feet at 115 a.m. EDT on the 19th. The Red Clay Creek at Wooddale was above its 5.5 foot flood stage from 106 a.m. EDT through 728 a.m. EDT on the 19th. It crested at 5.87 feet at 430 a.m. EDT on the 19th. Peak wind gusts included 70 mph at the Pilot Tower (Sussex County), 62 mph in Lewes (Sussex County), 61 mph at the Dover Air Force Base (Kent County), 60 mph in Georgetown (Sussex County) and 53 mph at both Bear (New Castle County) and the New Castle County Airport. Storm totals included 1.88 inches in Greenwood (Sussex County), 1.74 inches in Georgetown (Sussex County), 1.46 inches at the New Castle County Airport, 1.35 inches in Milford (Kent County) and 1.00 at the Dover Air Force Base (Kent County).

### Kent County

#### Dover

23	0623EST				0	0			Thunderstorm Wind (G52)
----	---------	--	--	--	---	---	--	--	-------------------------

A powerful line of severe thunderstorms uprooted trees and damaged a fence in Dover.

### New Castle County

#### North Portion

28	0000EST 0200EST				0	0			Flash Flood
----	--------------------	--	--	--	---	---	--	--	-------------

Thunderstorms with heavy rain dropped a Doppler Radar storm total estimate of 3 to 4 inches across north central New Castle County and caused flooding of smaller streams.

## DISTRICT OF COLUMBIA

NOT RECEIVED.

## FLORIDA, East Central

### Volusia County

#### Port Orange

14	0100EST				0	0	250K	0	Lightning
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Lightning struck a warehouse in Port Orange. The resulting fire caused \$250 thousand in damage.

### Indian River County

#### Wabasso

20	0950EST				1	4	0	0	Lightning
----	---------	--	--	--	---	---	---	---	-----------

A 49 year old woman was struck and killed by lightning while standing on a soccer field. About 20 other people were knocked to the ground by the strike. Four other people were transported to a local hospital. This was the first lightning ground stroke of the day in the area as showers began moving inland from the Atlantic.

F49BF

### St. Lucie County

#### 5 S Ft Pierce

25	1320EST				0	1	0	0	Lightning
----	---------	--	--	--	---	---	---	---	-----------

A power plant worker was injured by lightning while in a working basket on top of a crane on a utility truck.

### Lake County

#### Eustis

25	1400EST				0	1	8K	0	Lightning
----	---------	--	--	--	---	---	----	---	-----------

A female student was burned by a piece of power transformer on top of a pole that was struck by lightning. Pieces of the shattered transformer flew through an open window on a school bus and landed on the student's leg.

### Seminole County

#### Lake Mary

25	1515EST				1	2	0	0	Lightning
----	---------	--	--	--	---	---	---	---	-----------

A 22 year old man was killed by lightning while fishing under a gazebo at the end of a short pier in a lake. Two teen age boys who were also in the gazebo when the lightning struck were injured. M220U

# Storm Data and Unusual Weather Phenomena

September 2003

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## FLORIDA, East Central

### **St. Lucie County**

Port St Lucie	25	1655EST 1900EST			0	0	20K	0	Flash Flood
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About six inches of rain fell in the Port St. Lucie area flooding major roadways and stalling cars.

## FLORIDA, Extreme Southern

NONE REPORTED.

## FLORIDA, Northeastern

### **Nassau County**

5 SSE Amelia City	13	1600EST			1	0			Rip Current
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Tourist drowned when caught in rip current at an unguarded beach. Rough surf from Hurricane Isabel was developing and the Jacksonville surf forecast indicated a "moderate risk of rip currents" for the day with increasing surf later in the week. Nassau County Beach Patrol reported 6 rescues due to rip currents.

M47IW

**FLZ024**

### **Nassau**

15	1530EST			0	0			Heavy Surf/High Surf
18	1300EST							

High Surf and long period swell from Hurricane Isabel. Breakers of 7 to 10 feet reported with Nassau County beaches closed to swimming.

**FLZ038**

### **Flagler**

15	1530EST			0	0			Heavy Surf/High Surf
18	1300EST							

High Surf and long period swell from Hurricane Isabel. General breakers of 7 to 10 feet reported with occasional 12 to 15 foot sets. Flagler Beach Pier was closed with boards broken off in the seaward section as waves broke over the end of the pier. The pier was reported to be "wobbling" when it was closed.

**FLZ033**

### **St. Johns**

15	1530EST			0	0			Heavy Surf/High Surf
18	1300EST							

High Surf and long period swell from Hurricane Isabel with associated beach erosion. Breakers of 7 to 10 feet with 2 to 4 feet of beach erosion reported.

**FLZ025**

### **Duval**

15	1530EST			0	0			Heavy Surf/High Surf
18	1300EST							

High Surf and long period swell from Hurricane Isabel with associated beach erosion. Breakers of 7 to 10 feet with 2 to 4 feet of beach erosion reported.

**FLZ038**

### **Flagler**

29	1100EST			0	0			Astronomical High Tide
30	2359EST							

High astronomical tide combined with a strong northeast flow led to minor coastal flooding and beach erosion. Effects were most pronounced in Flagler County but were felt from the Altamaha Sound, Georgia south to Flagler Beach, Florida.

## FLORIDA, Northwest

NONE REPORTED.

## FLORIDA, Southern

### **Broward County**

Ft Lauderdale	01	1300EST			1	0			Rip Current
---------------	----	---------	--	--	---	---	--	--	-------------

A man drowned in a rip current at Fort Lauderdale Beach.  
M38IW

### **Palm Beach County**

Boca Raton	01	1730EST			2	0			Rip Current
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Two residents drowned in rip currents at an unguarded section of beach. Both persons were weak swimmers and were in 4.5 feet of water when the rip currents pulled them into deeper water.

M33IW, M31IW

### **Broward County**

22 E Ft Lauderdale	02	1500EST			0	0	200K		Lightning
--------------------	----	---------	--	--	---	---	------	--	-----------

Lightning struck a 45-foot sail boat on its way to Bimini. The lightning strike caused a fire that completely destroyed the craft. The only occupant on board was forced into the water where he suffered minor injuries before being rescued by the Coast Guard.

## Storm Data and Unusual Weather Phenomena

Time Local/	Path Length	Path Width	Number of Persons	Estimated Damage
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Location	Date	Standard	(Miles)	(Yards)	Killed	Injured	Property	Crops	Character of Storm
<b>FLORIDA, Southern</b>									
<b>Palm Beach County</b>									
<b>Lake Worth</b>	<b>04</b>	<b>1350EST</b>			<b>0</b>	<b>0</b>			<b>Funnel Cloud</b>
	A SKYWARN spotter sighted a funnel cloud just southwest of Lake Worth.								
<b>Miami - Dade County</b>									
<b>Homestead</b>	<b>04</b>	<b>1515EST</b>			<b>0</b>	<b>0</b>			<b>Funnel Cloud</b>
	A SKYWARN spotter saw a funnel cloud near U.S. 1.								
<b>Miami - Dade County</b>									
<b>Kendall</b>	<b>05</b>	<b>1200EST</b>	<b>1</b>	<b>20</b>	<b>0</b>	<b>0</b>			<b>Tornado (F0)</b>
	An off duty National Weather Service meteorologist playing golf on the Palmetto Golf Course, saw a tornado form near the Metro Zoo and move toward the east northeast. No damage was observed.								
<b>Palm Beach County</b>									
<b>Boca Raton</b>	<b>05</b>	<b>1340EST</b>			<b>0</b>	<b>0</b>			<b>Funnel Cloud</b>
	A SKYWARN spotter saw a funnel cloud near I-95 and Yamato Road.								
<b>Miami - Dade County</b>									
<b>11 SE Homestead Afb</b>	<b>12</b>	<b>1842EST</b>			<b>0</b>	<b>0</b>			<b>Funnel Cloud</b>
	Emergency Manager reported a funnel cloud over southern Biscayne Bay.								
<b>FLZ068</b>									
	<b>Coastal Palm Beach</b>								
	<b>21</b>	<b>0800EST</b>			<b>0</b>	<b>2</b>			<b>Hurricane/Typhoon</b>
	<b>22</b>	<b>2300EST</b>							
	Swells from hurricane Isabel, that was passing about 1000 miles to the east of southeast Florida, capsized a watercraft at the Boynton Beach Inlet injuring two men. A 14-year-old swimmer was rescued from high waves near Juno Beach Pier. Minor beach erosion was experienced.								
<b>Broward County</b>									
<b>Hallandale</b>	<b>23</b>	<b>1140EST</b>			<b>0</b>	<b>0</b>			<b>Funnel Cloud</b>
	Fire-Rescue reported a funnel cloud over Hallandale Beach Boulevard.								
<b>Broward County</b>									
<b>Hollywood</b>	<b>24</b>	<b>1245EST</b>			<b>0</b>	<b>1</b>			<b>Lightning</b>
	An 81-year-old man was seriously injured by a lightning strike as he walked down the sidewalk near Johnson Street								
<b>Miami - Dade County</b>									
<b>3 W (Mia)Miami Intl</b>	<b>24</b>	<b>1550EST</b>			<b>0</b>	<b>0</b>			<b>Thunderstorm Wind (G50)</b>
	CBS-4 measured a thunderstorm wind gust of 58 mph at their T.V studio.								
<b>Collier County</b>									
<b>West Portion</b>	<b>29</b>	<b>1000EST</b> <b>2300EST</b>			<b>0</b>	<b>0</b>	<b>100K</b>		<b>Flash Flood</b>
<b>Glades County</b>									
<b>South Portion</b>	<b>29</b>	<b>1000EST</b> <b>2300EST</b>			<b>0</b>	<b>0</b>	<b>20K</b>		<b>Flash Flood</b>
	Very heavy rainfall fell across southwest Florida with radar estimated amounts of 8 to 10 inches. Naples measured a record 6.99 inches. The resulting flood closed numerous roads in Collier County and washed out a road in Glades County. Numerous cars were stalled. Houses and businesses including a shopping mall suffered minor flooding damage.								
<b>FLORIDA, West Central</b>									
<b>FLZ049</b>									
	<b>Pasco</b>								
	<b>01</b>	<b>0000EST</b>			<b>0</b>	<b>0</b>			<b>Flood</b>
	<b>21</b>	<b>1015EST</b>							
	Cypress Creek at Worthington Gardens went above flood stage on August 2nd, crested at 10.27 fee on August 13th, and fell below flood stage on September 21st. Flood stage is 8 feet.								
<b>FLZ060</b>									
	<b>Sarasota</b>								
	<b>01</b>	<b>0000EST</b>			<b>0</b>	<b>0</b>			<b>Flood</b>
	<b>16</b>	<b>2355EST</b>							
	The Myakka River at Myakka State Park went above flood stage on August 5th, created at 10.02 feet on August 13th, and fell below flood stage on September 19th. Flood stage is 7 feet.								
<b>FLZ048</b>									
	<b>Hernando</b>								
	<b>01</b>	<b>0000EST</b>			<b>0</b>	<b>0</b>			<b>Flood</b>
	<b>13</b>	<b>1200EST</b>							
	The Withlacooche River at Trilby went above flood stage on August 11th, created at 13.95 feet on August 24th, and fell below flood stage on September 13th. Flood stage is 12 feet.								

# Storm Data and Unusual Weather Phenomena

September 2003

									September 2003
Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
<u><b>FLORIDA, West Central</b></u>									
<b>Lee County</b>									
2 S (Fmy)Ft Myers Page	05	1700EST			0	1			Lightning
A man in rural Lee County was struck by lightning, taken to the hospital, then released.									
<b>Charlotte County</b>									
Port Charlotte to Punta Gorda	05	1730EST 1900EST			0	0	90K		Flash Flood
A feeder band ahead of Tropical Storm Henri produced seven inches of rain in three hours in the Tee-N-Green area of Punta Gorda. Numerous streets were flooded and water lapped into homes due to the wakes produced by passing vehicles. The hardest hit area was Marion Street and the Whidden Industrial area in Punta Gorda, and along Edgewater and Kings Highway in Port Charlotte.									
<b>Sarasota County</b>									
Englewood to North Port	05	1730EST 1900EST			0	0	30K		Flash Flood
A total of 5 to 9 inches of rain fell during the event with the hardest hit area along Price and Salford Boulevards in North Port. The flooding was severe enough that the American Red Cross opened a shelter for displaced residents.									
<b>Hernando County</b>									
South Central Portion	06	0555EST 0700EST			0	0			Flash Flood
A stationary thunderstorm dropped 5 to 7 inches of rain in one hour near the Brooksville Airport and caused rapid flooding of roads. Emergency Management reported the water retreated as fast as it came, with the flood lasting only for 50-80 minutes. No significant damage occurred due to the lack of homes in the area. The thunderstorm developed on the north side of a tropical low as it moved onshore near Mediera Beach in Pinellas County. This tropical low was formerly known as Tropical Storm Henri that produced winds of 41 knots with gusts to 52 knots at Buoy 42036 100 NM west northwest of Bayport, FL on September 5th at 1200 EST.									
<b>Lee County</b>									
Cape Coral	13	1730EST 1830EST			0	0			Flash Flood
A nearly stationary thunderstorm formed along a sea breeze boundary across Cape Coral and dropped four to six inches of rain in three hours. The excessive rain caused widespread flooding along Hancock Bridge Parkway from Sarabarbra Blvd to N.E. 24th Ave.									
<b>Pasco County</b>									
1 W Hudson	25	1257EST			0	0			Hail (0.88)

## **FLORIDA, West Panhandle**

NONE REPORTED.

## **GEORGIA, East Central**

NONE REPORTED.

## **GEORGIA, Lower**

NONE REPORTED.

## **GEORGIA, North and Central**

### **Gilmer County**

Ellijay

03 2235EST  
04 0015EST

0 0

Flash Flood

The Gilmer county 911 center reported that heavy thunderstorm rains resulted in flooding of one road in the city with water flowing across the road. A business parking lot was also flooded out.

### **Monroe County**

Juliette

04 1500EST

0 0

1K

Thunderstorm Wind (G50)

A television station in Macon received a report from the public that five to six trees had been blown down.

### **Warren County**

Warrenton

04 1540EST

0 0

1K

Thunderstorm Wind (G50)

The Warren county Emergency Management Director reported that a shed was blown over at a gasoline service station.

### **Warren County**

Norwood

04 1545EST

0 0

Hail (0.75)

The Norwood Post Office reported dime-sized hail.

### **Gilmer County**

2 WSW Roosevelt to  
Ellijay

22 1354EST  
1415EST

0 0

Heavy Rain

The Gilmer county Emergency Management Director reported that excessive rainfall had resulted in some minor street flooding along U.S. Highway 76/Georgia Highway 282.

# Storm Data and Unusual Weather Phenomena

September 2003

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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## GEORGIA, North and Central

### **Gilmer County**

2 WSW Roosevelt to  
1 ESE Roosevelt

22 1354EST 0 0 5K Thunderstorm Wind (G52)

The Gilmer county Emergency Management Director reported that strong straight line winds or a microburst/downburst had resulted in widespread damage to trees along U.S. Highway 76/Georgia Highway 282 west of Ellijay between Elders and Roosevelt. The damage path was up to four miles long and one mile wide. Numerous trees were snapped off approximately 10 to 12 feet above the ground in this area. Most of the damage was between Cross Roads Church Road and Pleasant Grove Church Road. The worst of the damage was near Dover Chappel Road. No damage to structures was reported.

### **Hall County**

Gainesville

22 1511EST  
1545EST 0 0 2K Thunderstorm Wind (G50)

The Hall county 911 center reported that at least three, possibly four trees were down in the city. One of the trees was down on a power line.

### **Cobb County**

Marietta

22 1534EST 0 0 Heavy Rain

The public reported that heavy rain had resulted in minor flooding of some streets and particularly underpasses.

### **Bartow County**

1 E Kingston to  
6 N Taylorsville

27 1558EST  
1600EST 0 0 0.50K Thunderstorm Wind (G50)

The Bartow county 911 center reported that a couple of trees had been blown down, one on Georgia Highway 293 just east of Kingston and the other on Macedonia Road between Kingston and Taylorsville.

### **White County**

Helen

27 1645EST 0 0 Hail (0.88)

The public reported nickel-sized hail.

### **Cherokee County**

Free Home

27 1840EST 0 0 Hail (0.75)

The public reported penny-sized hail.

### **Coweta County**

3 E Thomas Xrds to  
3 S Sharpsburg

27 1840EST 0 0 1K Thunderstorm Wind (G50)

The Coweta county 911 center reported that a couple of trees and a power line were down at Fisher Road and Wynn's Pond Road near the Fayette county border. An off-duty National Weather Service employee reported that a couple of large tree limbs were down on Lower Fayetteville Road south of Sharpsburg.

### **Madison County**

3 W Ila to  
1 S Ila

27 1845EST 0 0 25K Thunderstorm Wind (G50)

The National Weather Service cooperative observer for Madison county reported that straight line thunderstorm wind gusts caused extensive damage to trees in the area. Hundreds of trees were either uprooted or broken off, with extensive debris in the streets in and around Ila. Several small structures in the area also sustained wind damage, mainly in the form of damage to roofs. Pea-sized hail was also reported in the area.

## GEORGIA, Northeast

### **Habersham County**

East Portion

22 1530EST  
1800EST 0 0 20K Flash Flood

A strong storm system produced widespread heavy rainfall across the region, which resulted in some flash flooding across Habersham County. Ankle-deep water entered several businesses in the Baldwin and Cornelia areas. Some creeks overflowed their banks and flooded adjacent roads, including a portion of highway 105 that was washed away. Flooding developed as far north as Clarkesville.

### **Rabun County**

4 S Clayton to  
Clayton

22 1545EST  
1730EST 0 0 Flash Flood

Heavy rainfall caused Stecoah Creek to rise rapidly to flood south of Clayton. Another small creek flooded in Clayton, and a small pond overflowed.

### **Habersham County**

3 NE Cornelia

22 1555EST 0 0 Thunderstorm Wind (G50)

A couple of trees were blown down.

## GEORGIA, Southeast

NONE REPORTED.

## Storm Data and Unusual Weather Phenomena

Time Local/	Path Length	Path Width	Number of Persons	Estimated Damage
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								September 2003
Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed      Injured		Estimated Damage Property      Crops	Character of Storm
<b><u>GEORGIA, Southwest</u></b>								
<b>GAZ142</b>	<b>Early</b>							
	<b>05</b>	<b>2100EST</b>			<b>0</b>	<b>0</b>		<b>Flood</b>
		<b>2200EST</b>						
Two to four inches of rain caused flooding on Highways 27 and 39. Reported by the Early County EMA.								
<b>Berrien County</b>								
<b>Nashville</b>	<b>05</b>	<b>2215EST</b>			<b>0</b>	<b>0</b>		<b>Flash Flood</b>
	<b>06</b>	<b>0000EST</b>						
Three to five inches of rain flooded several roads including Highways 129 and 168 in Nashville. Reported by the Berrien County EMA.								
<b><u>GULF OF MEXICO</u></b>								
<b>Gulf Side Of The</b>								
<b>Lower Keys Out 20Nm</b>								
<b>Key West</b>	<b>01</b>	<b>2110EST</b>			<b>0</b>	<b>0</b>		<b>Marine Tstm Wind</b>
Wind gust 34 knots (39 mph) recorded at Key West International Airport.								
<b>W End Of The 7 Mile</b>								
<b>Bridge To Key W Out</b>								
<b>20Nm</b>								
<b>Key West</b>	<b>01</b>	<b>2110EST</b>			<b>0</b>	<b>0</b>		<b>Marine Tstm Wind</b>
Wind gust 34 knots (39 mph) recorded at Key West International Airport.								
<b>Key W To Dry</b>								
<b>Tortugas Waters</b>								
<b>7 SW Key West</b>	<b>01</b>	<b>2153EST</b>			<b>0</b>	<b>0</b>		<b>Marine Tstm Wind</b>
Wind gust 37 knots (43 mph) recorded at Sand Key CMAN station.								
<b>Ocean Reef To Craig</b>								
<b>Key Fl Out 20Nm</b>								
<b>7 S Key Largo</b>	<b>01</b>	<b>2203EST</b>			<b>0</b>	<b>0</b>		<b>Marine Tstm Wind</b>
Wind gust 40 knots (46 mph) recorded at Molasses Reef CMAN station.								
<b>Englewood To Tarpon</b>								
<b>Springs Fl Out 20Nm</b>								
<b>8 NW St Petersburg Bea</b>	<b>03</b>	<b>1652EST</b>			<b>0</b>	<b>0</b>		<b>Waterspout</b>
Emergency Management reported a waterspout offshore of Madeira Beach.								
<b>Mobile Bay</b>								
<b>Pinto Island</b>	<b>04</b>	<b>1350CST</b>			<b>0</b>	<b>0</b>		<b>Marine Tstm Wind</b>
<b>Pensacola Fl To</b>								
<b>Pascagoula Ms Out</b>								
<b>20Nm</b>								
<b>Dauphin Island</b>	<b>04</b>	<b>1350CST</b>			<b>0</b>	<b>0</b>		<b>Marine Tstm Wind</b>
<b>High Is To Freeport Tx</b>								
<b>Out 20Nm</b>								
<b>High Is</b>	<b>04</b>	<b>1610CST</b>			<b>0</b>	<b>0</b>		<b>Marine Tstm Wind</b>
Measured at High Island School.								
<b>Mobile Bay</b>								
<b>Pinto Island</b>	<b>04</b>	<b>1620CST</b>			<b>0</b>	<b>0</b>		<b>Marine Tstm Wind</b>
<b>Atchafalaya R To</b>								
<b>Cameron La Out 20Nm</b>								
<b>12 S Cameron</b>	<b>04</b>	<b>1906CST</b>			<b>0</b>	<b>0</b>		<b>Marine Tstm Wind</b>
Offshore oil rig recorded 40 kt wind gust.								
<b>Ocean Reef To Craig</b>								
<b>Key Fl Out 20Nm</b>								
<b>7 S Key Largo</b>	<b>06</b>	<b>0250EST</b>			<b>0</b>	<b>0</b>		<b>Marine Tstm Wind</b>
Wind gust 44 knots (51 mph) recorded at Molasses Reef CMAN station.								

## Storm Data and Unusual Weather Phenomena

Time Lost/ Length	Path Length	Path Width	Number of Persons	Estimated Damage
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September 2003									
Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed   Injured		Estimated Damage Property   Crops		Character of Storm
<b>GULF OF MEXICO</b>									
<b>W End Of The 7 Mile Bridge To Key W Out 20Nm</b>									
8 S Key West	08	1335EST 1349EST			0	0			Waterspout
Waterspout observed 8 miles south of Key West International Airport.									
<b>Pascagoula Ms To Sw Pass Of Ms R Out 20Nm</b>									
8 S Biloxi	09	1410CST			0	0			Waterspout
<b>Florida Bay</b>									
13 ENE Duck Key	09	1627EST			0	0			Waterspout
Large mature waterspout observed by spotters 2 miles west of Lignumvitae Key.									
<b>Florida Bay</b>									
13 ENE Duck Key	09	1630EST 1700EST			0	0			Waterspout
Four rope-like waterspouts observed by spotters 5 miles west of Islamorada.									
<b>W End Of The 7 Mile Bridge To Key W Out 20Nm</b>									
4 WSW Big Pine Key	10	0728EST			0	0			Waterspout
Waterspout observed 1 mile south of Ramrod Key.									
<b>W End Of The 7 Mile Bridge To Key W Out 20Nm</b>									
4 SE Key West	10	1324EST 1334EST			0	0			Waterspout
Waterspout observed 4 miles southeast of Key West International Airport.									
<b>Gulf Side Of The Lower Keys Out 20Nm</b>									
11 WNW Big Pine Key	10	1537EST			0	0			Waterspout
Waterspout observed by spotters and off-duty NWS employees 3 miles north of Cudjoe Key.									
<b>Gulf Side Of The Lower Keys Out 20Nm</b>									
3 N Key West	10	1616EST 1625EST			0	0			Waterspout
Waterspout observed just north of Roosevelt Boulevard with spray ring visible.									
<b>Gulf Side Of The Lower Keys Out 20Nm</b>									
14 WNW Big Pine Key	10	1637EST 1658EST			0	0			Waterspout
Waterspout observed from spotter in an aircraft. Dark spot stage first observed at 1637 LT with subsequent collar cloud and funnel. Frigate birds observed circling in the associated updraft.									
<b>Cameron La To High Is Tx Out 20Nm</b>									
12 S Mouth Of Sabine R	11	0905CST			0	0			Marine Tstm Wind
Oil platform recorded 35 kt wind gust.									
<b>Cameron La To High Is Tx 20 To 60Nm</b>									
30 SSE Mouth Of Sabine	11	0921CST			0	0			Marine Tstm Wind
Offshore oil rig recorded 35 kt wind gust.									
<b>Pt O'Connor To Aransas Pass</b>									
Port O'Connor	12	0200CST			0	0			Marine Tstm Wind
Reported by TCOON site.									

## Storm Data and Unusual Weather Phenomena

Time Local/	Path Length	Path Width	Number of Persons	Estimated Damage
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Location	Date	Standard	(Miles)	(Yards)	Killed	Injured	Property	Crops	Character of Storm
<b>GULF OF MEXICO</b>									
<b>Pt O'Connor To Aransas Pass</b>									
13 N Port Aransas	12	0309CST 0409CST			0	0			Marine Tstm Wind
Recorded by RKP (Rockport) ASOS.									
<b>Corpus Christi To Baffin Bay</b>									
7 SW Port Aransas	12	0312CST			0	0	3M		Marine Tstm Wind
83 mph wind gust occurred at Ingleside and relayed by local news station. TCOON site just south of Ingleside reported peak gust of 48 knots. Winds caused a 400-foot barge to break loose and drift across the ship channel. 31 workers on the barge were blown off into the bay, however no injuries or fatalities were reported. A 200-ton crane fell off the barge forcing a shutdown of the Intracoastal Waterway.									
<b>Corpus Christi To Baffin Bay</b>									
Corpus Christi	12	0332CST			0	0			Marine Tstm Wind
Reported by NGP (Navy Corpus Christi).									
<b>Matagorda Ship Chnl To Pt Aransas Out 20Nm</b>									
Port Aransas	12	0336CST			0	0			Marine Tstm Wind
<b>Pt Aransas To Baffin Bay Tx Out 20Nm</b>									
Port Aransas	12	0336CST			0	0			Marine Tstm Wind
Port Aransas bouy recorded peak gust of 37 knots. However gusts up to 60 knots were estimated over the island in Port Aransas where damage occurred. (See Nueces county below for description of damage which occurred on land)									
<b>Pt Aransas To Baffin Bay Tx Out 20Nm</b>									
Bob Hall Pier	12	0411CST			0	0			Marine Tstm Wind
Reported by TCOON site.									
<b>Corpus Christi To Baffin Bay</b>									
South Bird Island	12	0412CST			0	0			Marine Tstm Wind
Reported by TCOON site.									
<b>Pt O'Connor To Aransas Pass</b>									
Port Aransas	12	0412CST			0	0			Marine Tstm Wind
<b>Matagorda Ship Chnl To Pt Aransas Out 20Nm</b>									
Pltfm 17Se Prt Arnsas	12	0418CST			0	0			Marine Tstm Wind
<b>Matagorda Ship Chnl To Pt Aransas Tx 20 To 60Nm</b>									
Pltfm 17Se Prt Arnsas	12	0430CST			0	0			Marine Tstm Wind
<b>Pt Aransas To Baffin Bay Tx 20 To 60Nm</b>									
30 E Corpus Christi	12	0430CST			0	0			Marine Tstm Wind
<b>Pt Aransas To Baffin Bay Tx Out 20Nm</b>									
8 SE Port Aransas	12	0448CST			0	0			Marine Tstm Wind
Reported at RTNS Platform.									



# Storm Data and Unusual Weather Phenomena

September 2003

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
Killed	Injured	Property	Crops						
<b><u>GULF OF MEXICO</u></b>									
<b>Matagorda Ship Chnl To Pt Aransas Tx 20 To 60Nm</b>									
Pltfm 17Se Prt Arnsas	12	0600CST			0	0			Marine Tstm Wind
<b>Pt Aransas To Baffin Bay Tx 20 To 60Nm</b>									
45 E Baffin Bay	12	0600CST			0	0			Marine Tstm Wind
<b>High Is To Freeport Tx Out 20Nm</b>									
Freeport	12	0200CST			0	0			Marine Tstm Wind
Measured at TCOONS Freeport Flow Info.									
<b>Matagorda Bay Port O'Connor</b>									
	12	0218CST			0	0			Marine Tstm Wind
Measured at TCOONS Port O'Connor.									
<b>Freeport To Matagorda Ship Chnl Out 20Nm</b>									
25 SW Matagorda	12	0224CST			0	0			Marine Tstm Wind
Measured at TCOONS Port O'Connor.									
<b>Freeport To Matagorda Ship Chnl 20 To 60Nm</b>									
Buoy 42019	12	0900CST			0	0			Marine Tstm Wind
Measured at Buoy 42019.									
<b>Ocean Reef To Craig Key Fl Out 20Nm</b>									
20 SW Key Largo	12	0715EST 0735EST			0	0			Waterspout
Mature and very wide funnel with large turbulent spray ring observed 8 miles southeast of Lower Matecumbe Key.									
<b>Gulf Side Of The Lower Keys Out 20Nm</b>									
10 W Big Pine Key	12	0724EST			0	0			Waterspout
Waterspout observed 2 miles north of Upper Sugarloaf Key.									
<b>Cameron La To High Is Tx 20 To 60Nm</b>									
28 SSW Mouth Of Sabin	12	0822CST			0	0			Marine Tstm Wind
Offshore oil rig recorded 43 kt wind gust.									
<b>Gulf Side Of The Lower Keys Out 20Nm</b>									
5 NE Big Pine Key to Big Pine Key	12	1235EST			0	0			Waterspout
Pilot observed waterspout 30 nautical miles east northeast of Key West International Airport.									
<b>Lake Ponchartrain And Lake Maurepas</b>									
Mid Lke Pontchartrain	13	1315CST			0	0			Marine Tstm Wind
<b>Lake Ponchartrain And Lake Maurepas</b>									
Lkfrnt Arpt New	13	1317CST			0	0			Marine Tstm Wind
Thunderstorm winds capsized a number of sailboats on Lake Pontchartrain.									
<b>Pt Aransas To Baffin Bay Tx Out 20Nm</b>									
Port Aransas	18	1600CST			0	0			Marine Tstm Wind

## Storm Data and Unusual Weather Phenomena

Time Local/	Path Length	Path Width	Number of Persons	Estimated Damage
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Location	Date	Standard	(Miles)	(Yards)	Killed	Injured	Property	Crops	Character of Storm
<b>GULF OF MEXICO</b>									
<b>Corpus Christi To Baffin Bay</b>									
South Bird Island	18	1636CST			0	0			Marine Tstm Wind
Reported by TCOON site.									
<b>Pt Aransas To Baffin Bay Tx Out 20Nm</b>									
Bob Hall Pier	18	1700CST			0	0			Marine Tstm Wind
Reported by TCOON site.									
<b>Corpus Christi To Baffin Bay</b>									
Baffin Bay	18	1724CST			0	0			Marine Tstm Wind
Reported by TCOON site.									
<b>Freeport To Matagorda Ship Chnl 20 To 60Nm</b>									
Buoy 42019	21	1200CST			0	0			Marine Tstm Wind
Measured at Buoy 42019.									
<b>Cameron La To High Is Tx Out 20Nm</b>									
12 S Mouth Of Sabine R	21	1206CST			0	0			Marine Tstm Wind
<b>Craig Key To The W End Of The 7 Mile Bridge Out 20Nm</b>									
1 ESE Marathon	22	1147EST 1152EST			0	0			Waterspout
Large waterspout observed by spotters and county officials moved northwest into the mangroves adjacent to Marathon High School and dissipated. No damage reported. Marathon High School enacted its tornado safety drill procedure as the waterspout approached.									
<b>Key W To Dry Tortugas Waters</b>									
7 SW Key West	25	1154EST			0	0			Marine Tstm Wind
Wind gust 34 knots (39 mph) recorded at Sand Key CMAN station.									
<b>Florida Bay</b>									
7 NE Duck Key	26	0712EST			0	0			Marine Tstm Wind
Wind gust 37 knots (43 mph) recorded at Long Key CMAN station.									
<b>Pensacola Fl To Pascagoula Ms Out 20Nm</b>									
Dauphin Island	27	1305CST			0	0			Marine Tstm Wind
<b>Englewood To Tarpon Springs Fl Out 20Nm</b>									
13 SSE St Petersburg Be	28	1542EST			0	0			Waterspout
The short lived waterspout was reported by the Manatee County Emergency Management just offshore of Bean Point.									
<b>Craig Key To The W End Of The 7 Mile Bridge Out 20Nm</b>									
7 S Marathon	28	2033EST			0	0			Marine Tstm Wind
Wind gust 48 knots (55 mph) recorded at Sombrero Key Light CMAN station.									
<b>Craig Key To The W End Of The 7 Mile Bridge Out 20Nm</b>									
7 S Marathon	28 29	2358EST 0008EST			0	0			Marine Tstm Wind
Wind gust 45 knots (52 mph) recorded at Sombrero Key Light CMAN station at 2358 EST on the 28th, followed by a gust to 42 knots (48 mph) at 0008 EST on the 29th. 10-minute sustained wind measured at 37 knots.									

## Storm Data and Unusual Weather Phenomena

		Time	Path	Path	Number of		Estimated		September 2003
		Local/	Length	Width	Persons		Damage		
Location	Date	Standard	(Miles)	(Yards)	Killed	Injured	Property	Crops	

## HAWAII

<b>HIZ004-008</b>	<b>North And East Hawaii Including Windward Kohala / Hamakua / Hilo / Puna - South Hawaii Including Kau</b>		
<b>01</b>	<b>0000HST</b>	<b>0</b>	<b>0 Heavy Surf/High Surf</b>

A brush fire scorched about 200 acres in the Kalapana area of the Big Island of Hawaii. The fire threatened several homes in the Black Sands Beach subdivision, but firefighters were able to prevent the flames from doing damage to any structures. There were no

# Storm Data and Unusual Weather Phenomena

September 2003

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## HAWAII

evacuations or serious injuries. The cause of the blaze was unknown, but fire officials were looking into the possibility of arson.

## HAWAII WATERS

### Channels Between The Islands

1 SW Kailua Kona	05	0725HST 0745HST			0	0			Waterspout
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A weather spotter on the Big Island of Hawaii sighted a waterspout off the Kona coast. No serious property damage or injuries were reported.

## IDAHO, Extreme Southeast

NONE REPORTED.

## IDAHO, North

NONE REPORTED.

## IDAHO, Northwest

NONE REPORTED.

## IDAHO, Southeast

### Clark County

9 N Kilgore	01 03	0100MST 1800MST			0	0			Wildfire
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4400 acre fire burned timber, downed fuels and grass. No structural damage reported. Cost to suppress estimated at 600,000 dollars.

### Lincoln County

17 ESE Dietrich	13 15	0500MST 1700MST			0	0			Wildfire
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2600 SID fire east of Dietrich. Burned grass and sage. No structural damage.

### IDZ020

#### Upper Snake River Plain

	16	1440MST 1700MST			0	0			High Wind (G42)
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Sustained winds of 48 mph occurred over the INEEL site west of Idaho Falls.

### Blaine County

1 E Gannett	21 23	0800MST 0800MST			0	0			Wildfire
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1000 acre Gannett fire burned sage and grass. No structural damage.

### Clark County

12 NW Dubois	28 29	0900MST 1700MST			0	0			Wildfire
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400 acre East fork fire burned grass, sage and cottonwoods. No structural damage reported.

## IDAHO, Southwest

NONE REPORTED.

## ILLINOIS, Central

### Coles County

Charleston	26	1317CST			0	0			Hail (0.75)
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### Woodford County

Minonk	26	1359CST			0	0			Hail (1.25)
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### Schuyler County

5 S Huntsville	26	1452CST			0	0			Hail (0.88)
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### Cass County

8 S Beardstown	26	1528CST			0	0			Thunderstorm Wind (G50)
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Several trees were blown down onto US 67 south of Beardstown.



## Storm Data and Unusual Weather Phenomena

Time Local/	Path Length	Path Width	Number of Persons	Estimated Damage
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Location	Date	Standard	(Miles)	(Yards)	Injured	Property	Crops	Character of Storm
<b>ILLINOIS, Northwest</b>								
<b>Hancock County</b>								
5 N Ferris	26	1328CST 1333CST			0	0		Funnel Cloud
<b>Mcdonough County</b>								
2 NW Macomb	26	1400CST 1402CST			0	0		Hail (0.88)
An upper level disturbance allowed thunderstorms to develop across Northeast Missouri, Southeast Iowa, and West Central Illinois during the afternoon. The storms produced spotty hail with a few funnel clouds. A meteorology professor at Western Illinois University in Macomb, Illinois observed a rotating wall cloud move across the city from 1407 CST to 1412 CST. Fortunately, no tornadogenesis occurred.								
<b>ILLINOIS, South</b>								
<b>ILZ078-083</b>								
<b>Wabash - White</b>								
10		2100CST			0	0		Flood
13		2000CST						
Minor flooding of the Wabash River occurred for a few days. At Mount Carmel, where flood stage is 19 feet, the river crested at 19.9 feet on September 12. The crest at New Harmony, Indiana was only a couple of inches above the 15-foot flood stage. The impacts around Mount Carmel were mainly to low-lying farmland and oil fields near the river. Oil field production ceased with the exception of pumping units on substructures. Access to those was by boat only. The City of Mount Carmel installed flood gate C. At New Harmony, there was little impact, but some low cropland was flooded on the Illinois side of the river.								
<b>Perry County</b>								
Pinckneyville	26	2030CST 2120CST			0	0		Heavy Rain
Flooding of a few streets was reported, including Main Street.								
<b>ILLINOIS, Southwest</b>								
<b>St. Clair County</b>								
Cahokia	26	0515CST			0	0		Lightning
An early morning fire at a propane facility in Cahokia was caused by a lightning strike. The lighting hit a manifold where two 10 inch high pressure lines converge. Flames were reported shooting 100 feet into the air. Shut off valves on the lines were closed, but since one valve was 3 miles away, the fire continued until early afternoon as the residual fuel in the line burned off.								
<b>Adams County</b>								
Lima	26	1425CST			0	0		Hail (1.75)
<b>Adams County</b>								
Loraine	26	1425CST			0	0		Hail (1.75)
Storm spotters reported golfball size hail in Loraine and Lima.								
<b>Adams County</b>								
3 N Golden	26	1445CST			0	0		Hail (1.50)
<b>Adams County</b>								
Camp Pt	26	1450CST			0	0		Hail (2.00)
Storm spotters reported hail up to 2 inches in diameter in Camp Point and 1 1/2 inch hail near Golden.								
<b>Adams County</b>								
Quincy	26	1448CST			0	0		Thunderstorm Wind (G55)
A local television station reported several trees and power lines down in the southeast part of Quincy.								
<b>Brown County</b>								
Mt Sterling	26	1510CST			0	0		Thunderstorm Wind (G55)
Some trees and large branches were downed by thunderstorm winds in parts of Mt. Sterling. The areas hardest hit included North Maple, Northwest Cross, Forrest, and North Capitol streets.								
<b>Madison County</b>								
Glen Carbon	26	1748CST			0	0		Thunderstorm Wind (G60)
<b>Madison County</b>								
Granite City	26	1750CST			0	0		Thunderstorm Wind (G60)

The County Sheriff office reported trees and power lines down in Glen Carbon and Granite City. One home in Glen Carbon was damaged by a fallen tree.

# Storm Data and Unusual Weather Phenomena

September 2003

September 2003									
Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
<b><u>ILLINOIS, Southwest</u></b>									
<b>Madison County</b>									
3 S Marine	26	1810CST			0	0			Thunderstorm Wind (G60)
Thunderstorm wind gusts downed trees and damaged some buildings in a subdivision in rural Madison County between Marine and St. Jacob. At one home, 9 Bartlett Pear trees were downed by the storm. Another home lost roof shingles and had an 8 by 10 foot shed blown into a neighbors yard. A television antenna was bent and a fence was also damaged by a downed tree.									
<b>St. Clair County</b>									
Belleville	26	1815CST			0	0			Thunderstorm Wind (G55)
Amateur radio spotters reported trees and power lines down in the western part of Belleville.									
<b>Madison County</b>									
Highland	26	1815CST			0	0			Thunderstorm Wind (G60)
Several power poles were broken by thunderstorm winds along Route 143 in Highland. The sign at a Dairy Queen on Route 143 was destroyed. Some trees and power lines were also downed in other parts of town as well.									
<b>Marion County</b>									
Salem	26	1850CST			0	0			Thunderstorm Wind (G55)
<b>Marion County</b>									
3 S Sandoval	26	1850CST			0	0			Thunderstorm Wind (G55)
Salem EMA officials reported trees down blocking Highway 51 south of Sandoval. Scattered trees were also down in Salem which blocked some streets.									
<b>Marion County</b>									
2 W Kinmundy	26	1853CST			0	0			Hail (1.00)
The Salem EMA office reported 1 inch hail just west of Kinmundy.									
<b>Randolph County</b>									
Sparta	26	1930CST			0	0			Hail (0.75)
<b>Randolph County</b>									
Tilden	26	1930CST			0	0			Hail (0.75)
Storm spotters reported 3/4 inch hail in Sparta and Tilden.									
<b><u>INDIANA, Central</u></b>									
<b>INZ045</b>									
<b>Putnam</b>									
01	0542EST				0	0			Flood
03	0400EST								
6 to 8 inches of rain fell across parts of central Indiana during the Labor Day weekend causing flooding along Big Walnut Creek. Reelsville crested at 16.63 feet (flood stage is 12 feet) on September 3.									
<b>Hendricks County</b>									
Countywide	01	0555EST 0900EST			0	0	2.5M		Flash Flood
<b>Madison County</b>									
Countywide	01	0620EST 0900EST			0	0	2.5M		Flash Flood
<b>Putnam County</b>									
Countywide	01	0625EST 0900EST			0	0	1M		Flash Flood
<b>Hamilton County</b>									
Countywide	01	0630EST 0900EST			0	0	5M		Flash Flood
<b>Marion County</b>									
Countywide	01	0635EST 0900EST			0	0	5M		Flash Flood

## Storm Data and Unusual Weather Phenomena

Time Local/	Path Length	Path Width	Number of Persons	Estimated Damage
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		Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		September 2003
Location	Date				Killed	Injured	Property	Crops	

## INDIANA, Central

INZ029>030-035>037- Tippecanoe - Clinton - Fountain - Montgomery - Boone - Hamilton - Madison - Delaware - Vermillion - Parke -  
039>041-043>049- Putnam - Hendricks - Marion - Hancock - Henry - Vigo - Clay - Owen - Morgan - Johnson - Shelby - Rush -  
051>057-060>061- Sullivan - Greene - Brown - Bartholomew - Decatur - Knox - Daviess - Martin - Lawrence - Jackson - Jennings  
063>065-067>072

01	0900EST	0	0	2.5M	Flood
03	0300EST				

## Randolph County Countywide

01	1030EST 1500EST	0	0	1M	Flash Flood
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## Henry County Countywide

01	1130EST	0	0	Flash Flood
	1500EST			

## Hendricks County Countywide

01	1230EST	0	0	Flash Flood
	1500EST			

## Marion County Countywide

01	1245EST 1500EST	0	0	Flash Flood
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## Hamilton County Countywide

01	1300EST	0	0	Flash Flood
	1500EST			

## Madison County Countywide

01	1300EST	0	0	Flash Flood
	1500EST			

## Hancock County Countywide

01	1330EST 1500EST	0	0	Flash Flood
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## Rush County Countywide

01	1430EST 1700EST	0	0	Flash Flood
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## Shelby County Countywide

01	1430EST 1700EST	0	0	Flash Flood
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Record rainfall event occurred across central Indiana starting in the evening of August 31 and continuing through the morning of September 2. The heaviest rain occurred along an axis from Vigo to Clay to Putnam to Hendricks to Marion to Hamilton to Madison, Delaware and Randolph counties. Many spots near the axis received 8 to 10 inches over the 30 hour period. This resulted in widespread flash flooding and flooding along small creeks. There were numerous evacuations from homes and rescues from vehicles. Many schools were closed. Many neighborhoods that never saw flooding before were flooded. There were also hundreds of flooded basements. The National Guard was activated to help with road closings and rescues at the request of the city of Indianapolis. The flooding continued through the early morning of September 3.

**INZ036>037-044>045**

**Montgomery - Boone - Parke - Putnam**

01	0739EST	0	0	Flood
02	1642EST			

6 to 8 inches of rain fell across parts of central Indiana during the Labor Day weekend causing flooding along Big Racoon Creek. Fincastle crested at 16.35 feet (flood stage is 11 feet) on September 1, while Coxville crested at 14.67 feet (flood stage is 14 feet) on September 2.

**INZ037-047**

**Boone - Marion**

01	0750EST	0	0	2M	Flood
02	1400EST				

8 to 10 inches of rain fell over the Labor Day weekend causing major flooding along Eagle Creek and Little Eagle Creek near Speedway. Eagle Creek crested at Speedway at 16.57 feet . Flood stage is 9 feet. Eagle Creek at Zionsville crested at 12.34 feet. Flood stage is 9 feet. The Speedway area had it's worst flooding since June 1957.



# Storm Data and Unusual Weather Phenomena

September 2003

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## INDIANA, Central

INZ021-028>029-035-  
043>044-051-060

**Carroll - Warren - Tippecanoe - Fountain - Vermillion - Parke - Vigo - Sullivan**

<b>01</b>	<b>1042EST</b>				<b>0</b>	<b>0</b>			<b>Flood</b>
<b>12</b>	<b>0117EST</b>								

Around 3 to 6 inches of rain fell over the Labor Day weekend. This caused minor flooding along the Wabash River. A few county roads, parks and river cabins were affected as a result of the flooding. There was also quite a bit of agricultural bottomland flooding, although most of the crops were already lost to the July flooding.

Location:	Flood Stage:	Crest:	Date of Crest:
Lafayette	11.0	16.47	09/03/03
Covington	16.0	20.33	09/04/03
Montezuma	14.0	22.30	09/03/03
Terre Haute	14.0	19.37	09/04/03
Hutsonville	16.0	20.90	09/06/03
Riverton	15.0	18.92	09/08/03

INZ039-047

**Hamilton - Marion**

<b>01</b>	<b>1116EST</b>			<b>1</b>	<b>0</b>			<b>Flood</b>
<b>04</b>	<b>1435EST</b>							

Record flooding occurred along Fall Creek at Millersville. The creek crested at 15.7 feet. The flood stage is 9.0 feet. The flooding was the result of 8 to 10 inches of rain that fell over the Labor Day weekend. An elderly woman lost her life when her car was swept into the creek. F781W

**Henry County**

**New Castle**

<b>01</b>	<b>1310EST</b>			<b>0</b>	<b>1</b>	<b>200K</b>		<b>Thunderstorm Wind (G60)</b>
	<b>1311EST</b>							

Straight-line winds caused considerable damage to several houses and vehicles. A man also received an eye injury but was in fair condition.

INZ039>041-047-  
053>055-061>062-  
067>068

**Hamilton - Madison - Delaware - Marion - Owen - Morgan - Johnson - Greene - Monroe - Knox - Daviess**

<b>01</b>	<b>1326EST</b>			<b>0</b>	<b>0</b>	<b>22M</b>		<b>Flood</b>
<b>11</b>	<b>0651EST</b>							

8 to 10 inches of rain fell across central Indiana during the Labor Day weekend causing major flooding along parts of the White River. In fact, Indianapolis received the most rain ever for a calendar day (7.2 inches) breaking the old record set in 1895 (6.8 inches). According to a local newspaper account, nearly 3,000 residents across central Indiana applied for flood assistance and flood damage was estimated in excess of 20 million dollars. SEMA reports indicated more than 300 homes and nearly 60 businesses were flooded. Nearly 200 people were forced to evacuate their residences. The cities of Muncie and Anderson had near major flooding as the river crested at its highest level since April 1964 and June 1958 respectively. While the city proper of Muncie was protected by levees, considerable flood damage occurred in areas just outside of the city proper. Sandbagging in the city of Anderson saved more than 100 homes from flood damage. The local flood protection would have been overtopped without the sandbagging. There was extensive flooding across Hamilton County, however levels were nearly 2 feet below those of July 2003.

The White River in the southern portion of Marion County came up 15 feet in just 18 hours after the rain ended. The greatest flood since January 1, 1991 on the White River in Indianapolis met the record flood on White Lick Creek near Centerton and produced the largest flood ever seen in Morgan County since March 1913. This flood raced downstream and struck Owen County on the 3rd. Consequently, Owen County had its worst flooding since January 1991. As this flood approached Greene County, the flood transformed to an extensive agricultural flood and its speed slowed. A near major flood along the Eel River in the Bowling Green area met this large flood along the White River at Worthington. The resulting flooding in Greene County exceeded the July 2003 flood by 2.5 feet. This was the biggest flood in Greene County since May 2002.

Location:	Flood Stage:	Crest:	Date of Crest:
Muncie	9.0	14.02	09/02/03
Anderson	10.0	19.52	09/03/03
Noblesville 14.0	19.99	09/04/03	
Nora	11.0	15.35	09/04/03
Ravenswood	6.0	9.5	09/04/03
Indianapolis	16.0	19.65	09/01/03
Centerton	12.0	19.87	09/02/03
Spencer	14.0	23.30	09/04/03
Worthington	18.0	26.64	09/05/03
Elliston	18.0	28.10	09/06/03
Newberry	13.0	22.93	09/06/03
Edwardsport	15.0	23.30	09/07/03

# Storm Data and Unusual Weather Phenomena

September 2003

September 2003									
Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
<b>INDIANA, Central</b>									
<b>INZ054</b>									
<b>Morgan</b>									
	<b>01</b>	<b>1332EST</b>			<b>0</b>	<b>0</b>			<b>Flood</b>
	<b>02</b>	<b>2106EST</b>							
A tie for a record flood, along White Lick Creek at Mooresville, accompanied 3 to 6 inches of rain that fell over the Labor Day weekend. The gage crested at 23.32 feet. Flood stage is 17.0 feet.									
<b>Shelby County</b>									
<b>Shelbyville</b>									
	<b>01</b>	<b>1430EST</b>			<b>0</b>	<b>0</b>			<b>Thunderstorm Wind (G50)</b>
Law enforcement reported trees down.									
<b>INZ041</b>									
<b>Delaware</b>									
	<b>01</b>	<b>1512EST</b>			<b>0</b>	<b>0</b>			<b>Flood</b>
	<b>03</b>	<b>0706EST</b>							
6 to 8 inches of rain fell over the Labor Day Weekend causing flooding along the Mississinewa River. Ridgeville crested at 14.68 feet (flood stage is 11 feet) on September 1.									
<b>INZ049-056&gt;057</b>									
<b>Henry - Shelby - Rush</b>									
	<b>01</b>	<b>1534EST</b>			<b>0</b>	<b>0</b>			<b>Flood</b>
	<b>04</b>	<b>0834EST</b>							
6 to 8 inches of rain fell across parts of central Indiana during the Labor Day weekend causing flooding along the Big Blue River. Carthage crested at 10 feet (flood stage is 7 feet) on September 2, and Shelbyville crested at 13.78 feet (flood stage is 11 feet) on September 3.									
<b>INZ021-029-031</b>									
<b>Carroll - Tippecanoe - Howard</b>									
	<b>01</b>	<b>1603EST</b>			<b>0</b>	<b>0</b>			<b>Flood</b>
	<b>04</b>	<b>1732EST</b>							
3 to 4 inches of rain fell over the Labor Day weekend causing minor flooding along Wildcat Creek. Kokomo crested at 12 feet (flood stage is 10 feet), while Lafayette crested at 13.2 feet (flood stage is 10 feet).									
<b>INZ045-052</b>									
<b>Putnam - Clay</b>									
	<b>01</b>	<b>1735EST</b>			<b>0</b>	<b>0</b>			<b>Flood</b>
	<b>04</b>	<b>1235EST</b>							
6 to 8 inches of rain fell across parts of central Indiana during the Labor Day weekend causing flooding along the Eel River. Bowling Green crested at 20.77 feet (flood stage is 17 feet) on September 2.									
<b>INZ045&gt;046-053</b>									
<b>Putnam - Hendricks - Owen</b>									
	<b>01</b>	<b>2050EST</b>			<b>0</b>	<b>0</b>			<b>Flood</b>
	<b>04</b>	<b>1343EST</b>							
6 to 8 inches of rain fell over the Labor Day weekend causing flooding along Mill Creek. Cataract crested at 17.62 feet. Flood stage is 15 feet.									
<b>INZ067</b>									
<b>Knox</b>									
	<b>06</b>	<b>1729EST</b>			<b>0</b>	<b>0</b>			<b>Flood</b>
	<b>11</b>	<b>0108EST</b>							
3 to 6 inches of rain fell over the upper Wabash River during the Labor Day weekend. This caused minor flooding to occur along the lower Wabash River by September 6. Vincennes crested at 16.5 feet (flood stage is 16 feet) on the 8th.									
<b>INZ067</b>									
<b>Knox</b>									
	<b>07</b>	<b>0900EST</b>			<b>0</b>	<b>0</b>			<b>Flood</b>
	<b>13</b>	<b>0600EST</b>							
Flooding occurred along the lower portion of the White River due to the heavy rain that fell further north during the Labor Day weekend. Petersburg crested at 21.54 feet (flood stage is 16 feet) on the 10th, while Hazleton crested at 20.70 feet (flood stage is 16 feet) on the 11th.									
<b>Delaware County</b>									
<b>Eaton to 4 S Muncie</b>									
	<b>15</b>	<b>1056EST</b>			<b>0</b>	<b>0</b>			<b>Hail (1.75)</b>
		<b>1111EST</b>							
Dime to golfball size hail was reported by law enforcement and the general public.									
<b>Fountain County</b>									
<b>Countywide</b>									
	<b>24</b>	<b>0730EST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
		<b>0930EST</b>							
<b>Tippecanoe County</b>									
<b>Countywide</b>									
	<b>24</b>	<b>0730EST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
		<b>0930EST</b>							

# Storm Data and Unusual Weather Phenomena

September 2003

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## **INDIANA, Central**

### **Warren County**

Countywide	24	0830EST 0930EST			0	0			Flash Flood
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There were numerous reports of flooded roadways as 3 to 4 inches of rain fell on already saturated grounds from the Labor Day weekend flooding.

### **Tippecanoe County**

Romney	26	1900EST 1910EST			0	0			Hail (1.00)
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### **Montgomery County**

10 SW Crawfordsville	26	1915EST			0	0			Thunderstorm Wind (G50)
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### **Tippecanoe County**

Romney	26	1915EST			0	0			Thunderstorm Wind (G50)
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### **Boone County**

Elizaville	26	2009EST 2010EST			0	0			Hail (0.88)
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### **Hamilton County**

Sheridan	26	2010EST 2011EST			0	0			Hail (0.88)
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### **Hamilton County**

2.2 WSW Arcadia to Arcadia	26	2027EST 2030EST	2.2	100	0	0	300K		Tornado (F1)
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An F1 tornado cut a 2 and a quarter mile path across northern Hamilton near Arcadia damaging 1 home and destroying several barns. The tornado also knocked down numerous trees there.

### **Hamilton County**

1 S Arcadia	26	2030EST 2031EST			0	0	50K		Thunderstorm Wind (G62)
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### **Madison County**

2 N Frankton to 3 W Anderson	26	2115EST			0	0	20K		Thunderstorm Wind (G56)
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### **Randolph County**

Parker City	26	2129EST 2130EST			0	0			Thunderstorm Wind (G50)
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### **Randolph County**

Ridgeville to New Pittsburg	26	2145EST 2155EST			0	0	10K		Thunderstorm Wind (G56)
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A squall line moved across central Indiana during the evening of September 26. There were several reports of trees down and large hail across central Indiana. The worst damage occurred across northern Hamilton county as an F1 tornado cut a 2 and a quarter mile path to near Arcadia damaging 1 home and destroying several barns. The tornado also knocked down numerous trees there. 4 miles south of where the tornado touched down, thunderstorm winds estimated at 72 mph by law enforcement knocked down a scoreboard at Hamilton Heights High School. A high school football game there had to be postponed until the next day as students and fans took cover from the approaching squall line. Finally, a roof received damage and a garage door was destroyed due to straight line winds near Anderson, and a roof was damaged in Randolph county.

### **Tippecanoe County**

Lafayette	26	1930EST 2130EST			0	0			Flash Flood
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Street flooding and flooding of underpasses was reported as a squall line moved through dumping heavy rain.

**INZ021-028>029-035-043>044-051-060**

Carroll - Warren - Tippecanoe - Fountain - Vermillion - Parke - Vigo - Sullivan	27 30	0141EST 2359EST			0	0			Flood
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Only 1 to 2 inches of rain fell on September 26, 2003. Even with such a small amount of rainfall, previously saturated ground gave way to minor flooding along the Wabash River. The flooding began on September 27, 2003 and continued into October.

Location:	Flood Stage:	Crest:	Date of Crest:
Lafayette	11.0	16.47	09/28/03
Covington	16.0	20.08	09/29/03

## Storm Data and Unusual Weather Phenomena

Time Lost/ Length	Path	Path Width	Number of Persons	Estimated Damage
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September 2003									
Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed Injured		Estimated Damage Property Crops	Character of Storm	
<b><u>INDIANA, Central</u></b>									
		Montezuma	14.0		18.79	09/30/03			
		Terre Haute	14.0		16.47	10/01/03			
		Hutsonville	16.0		18.40	10/02/03			
		Riverton	15.0		16.90	10/03/03			
<b><u>INDIANA, Northeast</u></b>									
<b>Wells County</b>									
<b>1 W Keystone</b>	<b>15</b>	<b>1120EST</b>			<b>0</b>	<b>0</b>	<b>0</b>		<b>Hail (0.75)</b>
<b><u>INDIANA, Northwest</u></b>									
		NONE REPORTED.							
<b><u>INDIANA, South Central</u></b>									
<b>Orange County</b>									
<b>Countywide</b>	<b>01</b>	<b>1838EST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
		<b>2015EST</b>							
		Several streets in Paoli and French Lick were covered by water. Water was flowing quickly off hillsides and covering parts of Highways 150 and 56.							
<b>Jefferson County</b>									
<b>Countywide</b>	<b>02</b>	<b>1545EST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
		<b>2145EST</b>							
		Creeks were flowing out of their banks in the eastern part of the county near Madison. Some roads in Madison were down to one lane open due to flowing water. In the western part of the county near Deputy, numerous road were covered with flowing water and ditches were overflowing. Elsewhere in the county, numerous roads were covered or closed due to high water.							
<b>Scott County</b>									
<b>Lexington</b>	<b>02</b>	<b>1804EST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
		<b>2130EST</b>							
		State Road 356 north of Lexington, and sections of four other roads in the Lexington area, were impassable due to high water.							
<b>INZ079</b>									
		<b>Jefferson</b>							
	<b>02</b>	<b>2020EST</b>			<b>0</b>	<b>0</b>			<b>Flood</b>
	<b>03</b>	<b>0910EST</b>							
		The Muscatatuck River at Deputy crested at 22.8 feet at 3 AM EST on September 3. Flood stage at Deputy is 20 feet. At this level, county roads are under water in northeastern Jefferson County.							
<b>Harrison County</b>									
<b>Laconia</b>	<b>27</b>	<b>0129EST</b>			<b>0</b>	<b>0</b>			<b>Thunderstorm Wind (G50)</b>
		Trees were downed.							
<b><u>INDIANA, Southeast</u></b>									
<b>Wayne County</b>									
<b>1 W Richmond</b>	<b>01</b>	<b>1400EST</b>			<b>0</b>	<b>0</b>	<b>5K</b>		<b>Thunderstorm Wind (G50)</b>
		<b>1404EST</b>							
		Numerous trees were downed, including one on a home, causing minor damage.							
<b>INZ050</b>									
		<b>Wayne</b>							
	<b>01</b>	<b>1502EST</b>			<b>0</b>	<b>0</b>			<b>Flood</b>
		<b>1700EST</b>							
		A large area of heavy rain moved across the Whitewater Valley during the afternoon hours. Two to three inches fell during the mid afternoon hours, causing several roads to flood and creeks to rise out of their banks.							
<b><u>INDIANA, Southwest</u></b>									
<b>INZ081&gt;082</b>									
		<b>Gibson - Pike</b>							
	<b>07</b>	<b>0900CST</b>			<b>0</b>	<b>0</b>			<b>Flood</b>
	<b>13</b>	<b>1800CST</b>							
		Minor to moderate flooding of the White River occurred for several days. At Petersburg, where flood stage is 16 feet, the river crested at 21.54 feet on September 10. At Hazleton in Gibson County, the river crested at 20.70 feet on September 11. Flood stage there is also 16 feet. Flooding affected higher bottomlands, affecting residents of some river cabins. State Road 257 completely flooded near where it crosses the river east of Petersburg. Flooding affected low agricultural lands and low oil fields, and a few local county roads were closed.							
<b>INZ081-085</b>									
		<b>Gibson - Posey</b>							
	<b>10</b>	<b>2100CST</b>			<b>0</b>	<b>0</b>			<b>Flood</b>
	<b>13</b>	<b>2000CST</b>							
		Minor flooding of the Wabash River occurred for a few days. At Mount Carmel, Illinois, where flood stage is 19 feet, the river crested at 19.9 feet on September 12. The crest at New Harmony was only a couple of inches above the 15-foot flood stage. The impacts around Mount Carmel were mainly to low-lying farmland and oil fields near the river. Oil field production ceased with the exception of pumping units on substructures. Access to those was by boat only. At New Harmony, there was little impact, but some low cropland was flooded on the Illinois side of the river.							

## Storm Data and Unusual Weather Phenomena

September 2003

September 2003									
Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed    Injured		Estimated Damage Property    Crops		Character of Storm
<b><u>IOWA, Central</u></b>									
<b>Union County</b> 2 S Creston to 1 NNE Creston	11	1352CST 1357CST	3.5	50	0	0	250K	25K	Tornado (F0)
Tornado cut a continous path from south of Creston through the town of Creston. A cold front moved into Iowa from the west. Considerable moisture was drawn north on southerly winds ahead of the front with dew points rising into the mid 60s to low 70s across the state. A band of thunderstorms formed ahead of the cold front on what was the warm conveyer belt. One of the storms became severe south of Creston and spawned a small tornado. The tornado touched down about a mile south of town and moved north-northeast through the town of Creston. Several buildings were damaged. One of the buildings lost the entire end of the structure. A few farmsteads were affected as well. As the storm moved through Creston, several houses had roof and window damage.									
<b>Hamilton County</b> 3 S Ellsworth	26	1500CST			0	0			Hail (0.75)
<b>Hamilton County</b> Randall	26	1500CST			0	0			Hail (0.75)
<b>Story County</b> 2 NE Roland	26	1515CST			0	0	2K		Hail (0.88)
A cold front moved southeast across the state during the morning and early afternoon hours. A secondary cold front dropped into central Iowa during the mid afternoon hours. Though most of the moisture had been pushed southeast of the area following the first front, dew point temperatures did pool into the low to mid 50s just ahead of the secondary front. This in combination with a strong upper level jet max sweeping southeast into the state set the stage for a narrow line of thunderstorms to develop. A small cluster of thunderstorms became marginally severe and produced pea to penny size hail in Hamilton County. The hail reportedly covered the ground east of Ellsworth. As the cell progressed south, hail the size of nickels covered the ground northeast of Roland.									
<b><u>IOWA, East Central and Southeast</u></b>									
<b>Lee County</b> Montrose	26	1308CST 1310CST			0	0	50K		Hail (1.25)
An upper level disturbance allowed thunderstorms to develop across Northeast Missouri, Southeast Iowa, and West Central Illinois during the afternoon. The storms produced spotty hail with a few funnel clouds. A meteorology professor at Western Illinois University in Macomb, Illinois observed a rotating wall cloud move across the city from 1407 CST to 1412 CST. Fortunately, no tornadogenesis occurred.									
<b><u>IOWA, Northeast</u></b>									
NONE REPORTED.									
<b><u>IOWA, Northwest</u></b>									
NONE REPORTED.									
<b><u>IOWA, Southwest</u></b>									
NONE REPORTED.									
<b><u>KANSAS, East</u></b>									
<b>Republic County</b> Munden	10	2027CST			0	0			Thunderstorm Wind (G52)
<b>Cloud County</b> 6 S Jamestown	10	2033CST			0	0			Thunderstorm Wind (G56)
<b>KSZ008</b>	10	Republic 2053CST 2100CST			0	0			Flood
Water was reported briefly over the roadway south of Courtland.									
<b>Cloud County</b> 5 W Concordia	10	2126CST 2346CST			0	0			Flash Flood
Heavy rains caused runoff that overflowed highway 28 and caused it to be closed for several hours.									
<b>Ottawa County</b> Delphos	11	0130CST 0140CST			0	0			Flash Flood
Runoff from heavy rains caused flooding in northwestern Republic county for a time.									

# Storm Data and Unusual Weather Phenomena

September 2003

September 2003									
Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
<b><u>KANSAS, East</u></b>									
<b>Cloud County</b>									
Concordia	10	2346CST			0	0			Flash Flood
	11	0130CST							
Several streets in Concordia were flooded and impassable from heavy rains. Highway 9 had water over the roadway in several areas including near Macyville, southwest of Concordia.									
<b>KSZ020-034</b>									
<b>Cloud - Ottawa</b>									
	11	0001CST			0	0			Flood
	13	2000CST							
Runoff from heavy rains on the evening of the 10th sent some rivers in Cloud and Ottawa counties into flood for several days. The river flooding was minor in most areas as the rivers crested only one to three feet above flood stage. However, the Solomon River near Glasco crested at 32.6 feet on the morning of the 12th. Flood stage at Glasco is 22.0 feet.									
<b><u>KANSAS, Extreme Southeast</u></b>									
<b>Crawford County</b>									
Girard	01	1710CST			0	0			Flash Flood
		1830CST							
Law enforcement officials observed several streets and low water crossings flooded near the community of Girard.									
<b>Bourbon County</b>									
Devon	26	1620CST			0	0			Hail (1.00)
<b>Bourbon County</b>									
Garland	26	1710CST			0	0			Hail (0.75)
<b>Crawford County</b>									
Arcadia	26	1745CST			0	0			Hail (0.75)
<b><u>KANSAS, North Central</u></b>									
<b>Rooks County</b>									
2 S Stockton	10	1544CST			0	0	25K	150K	Hail (1.75)
<b>Phillips County</b>									
Agra	10	1605CST			0	0	0	0	Hail (0.75)
<b>Smith County</b>									
3 SE Athol	10	1638CST			0	0	0	0	Thunderstorm Wind (G52)
<b>Smith County</b>									
Smith Center	10	1652CST			0	0	100K	0	Thunderstorm Wind (G53)
		1702CST							
<b>Rooks County</b>									
Damar	10	1715CST			0	0	25K	150K	Hail (1.75)
<b>Osborne County</b>									
1 S Osborne	10	1735CST			0	0	0	0	Hail (0.75)
<b>Jewell County</b>									
2 S Webber	10	1747CST			0	0	25K	150K	Hail (1.75)
<b>Osborne County</b>									
1 W Osborne	10	1805CST			0	0	0	0	Hail (0.75)
<b>Jewell County</b>									
4 N Burr Oak	10	1807CST			0	0	10K	0	Thunderstorm Wind (G56)
<b>Mitchell County</b>									
Glen Elder	10	1945CST			0	0	100K	0	Thunderstorm Wind (G71)
<b>Mitchell County</b>									
Countywide	10	2045CST			0	1	500K	500K	Flash Flood
	11	0200CST							
<b>KSZ019</b>									
<b>Mitchell</b>									
	11	0200CST			0	0	500K	1M	Flood
	12	0000CST							

# Storm Data and Unusual Weather Phenomena

September 2003

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## KANSAS, North Central

Severe thunderstorms produced large hail, high winds and torrential rainfall across north-central Kansas. The extremely heavy rain resulted in widespread flooding across Mitchell county. Before the flooding began, the complex of thunderstorms had a history of producing winds in excess of 60 mph and hail to the size of golf balls. The largest hail was reported near Damar and Stockton in Rooks county, and around Webber in Jewell county. Winds of 60 to 80 mph were also reported and caused damage from Smith Center to Glen Elder. In Smith Center, a roof was torn from a church by the high wind while windows were blown out of a downtown business. Large tree limbs were reported down in the Glen Elder area. Electricity was lost to several locations throughout the night.

By late evening, radar estimates and reports from around Mitchell county began to paint a picture of torrential rainfall and widespread flooding across the county. About 8 inches of rain was reported in Beloit, with 8 to 12 inches measured south and east of town. Water was over Highway 14 south of Beloit. The road was blocked off for a time. There were reports of numerous bridges and roads under water or washed out from west of Beloit to the east end of the county along and near the Solomon River. At the Indian Creek Bridge about 2 miles west of Beloit, a farmer narrowly escaped death as his tractor collapsed the bridge and he was washed into the creek and eventually into the Solomon River. After being washed downstream by the raging current, the farmer grabbed a hold of some tree branches along the river and pulled himself to safety from the water. He suffered minor injuries from the ordeal.

The Solomon River was out of its banks from west of Beloit downstream to Simpson. The river crested around 25 feet at Beloit or about 5 feet above flood stage. The flow recorded by the USGS at Simpson on the eastern Mitchell county line was greater than the flow recorded in 1993. Throughout Mitchell county, economic losses due to soil erosion, crop flooding and structural damage to farmstead buildings totaled from 1 to 3 million dollars.

## KANSAS, Northeast

### Miami County

4 E Bucyrus	26	1432CST			0	0			Hail (0.75)
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## KANSAS, Northwest

### Gove County

4 W Gove	09	1500MST			0	0			Hail (1.75)
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### Gove County

4 W Gove	09	1520MST			0	0			Hail (1.00)
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### Gove County

2 W Gove	09	1524MST			0	0			Hail (0.75)
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### Sheridan County

15 S Hoxie	09	1604MST			0	0			Hail (0.75)
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### Sheridan County

4 E Hoxie	09	1615MST			0	0			Hail (1.00)
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### Gove County

2 W Gove	09	1625MST			0	0			Hail (1.75)
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### Gove County

Gove	09	1627MST			0	0			Hail (2.75)
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### Gove County

Grainfield	09	1634MST			0	0			Hail (0.75)
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### Gove County

Grainfield	09	1635MST			0	0			Hail (2.00)
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### Sheridan County

3 E Hoxie	09	1652MST			0	0			Hail (1.75)
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### Sheridan County

1 NE Hoxie	09	1700MST			0	0			Hail (0.88)
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Hail almost covered the ground.

### Wichita County

Leoti	10	1400MST			0	0			Hail (0.75)
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### Graham County

7 SE Hill City	10	1502MST			0	0			Hail (0.75)
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## Storm Data and Unusual Weather Phenomena

September 2003

September 2003									
Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed Injured		Estimated Damage Property Crops		Character of Storm
<b><u>KANSAS, Northwest</u></b>									
<b>Graham County</b>									
6 SE Hill City	10	1502MST			0	0			Hail (1.00)
<b>Graham County</b>									
10 SE Hill City	10	1508MST			0	0			Hail (1.75)
<b>Graham County</b>									
4 SE Hill City	10	1510MST			0	0			Hail (1.75)
<b>Graham County</b>									
13 SSE Hill City	22	0100MST			0	0			Hail (0.75)
<b><u>KANSAS, Southeast</u></b>									
<b>Lincoln County</b>									
North Portion	10 11	2200CST 0300CST			0	0	84K	700K	Flash Flood
	<p>Torrential rains, on the order of 2-4 inches per hour, caused flash flooding across approximately 108 square miles, primarily in Cedron and Orange townships as well as parts of Battle Creek, Hanover, and Grant townships. Land damage acreage: 26,250. Included in this affected acreage were 2,560 acres of milo and 640 acres of soybeans. Farm facilities damaged: 25 dams and 10 miles of fencing. Narrative provided by USDA Flash Situation Report.</p>								
<b>Sedgwick County</b>									
Park City	11	0440CST 1155CST			0	0			Flash Flood
	<p>KFDI reported North Broadway Avenue flooded from 77th Street North, thru 93rd Street North, to 101st Street North near the Sedgwick/Harvey County line.</p>								
<b>Butler County</b>									
5 NW De Graff	11	0550CST 1435CST			0	0			Flash Flood
	<p>County Line Road flooded 4 miles west of Highway 77 near Butler/Marion County line.</p>								
<b>Sedgwick County</b>									
Wichita	11	0834CST 1155CST			0	0			Flash Flood
	<p>The following were flooded: 13th Street/West Street intersection, 2nd Street/West Street intersection, 31st Street South/South Seneca intersection, and 2nd Avenue/Market Street Intersection in downtown Wichita.</p>								
<b>Russell County</b>									
12 N Russell	11	0922CST 1130CST			0	0			Flash Flood
	<p>Paradise Creek overflowed Highway 281 and adjacent fields.</p>								
<b>Butler County</b>									
Andover	11	1000CST 1435CST			0	0			Flash Flood
	<p>Meadowlark Elementary flooded. School closed.</p>								
<b>Butler County</b>									
3 S Andover	11	1005CST 1435CST			0	0			Flash Flood
	<p>East Kellogg/Butler Road intersection flooded.</p>								
<b>Butler County</b>									
1 W Andover	11	1005CST 1435CST			0	0			Flash Flood
	<p>Woman trapped in car at East Central/159th Street intersection near Terradyne Country Club. Rescue required.</p>								
<b>Butler County</b>									
El Dorado	11	1005CST 1435CST			0	0			Flash Flood
	<p>Numerous roads and highways flooded.</p>								
<b>Butler County</b>									
5 SW Augusta	11	1030CST 1435CST			0	0			Flash Flood
	<p>Santa Fe Lake Road flooded 2 miles south of Highway 54.</p>								
<b>Butler County</b>									
1 W Augusta	11	1030CST 1435CST			0	0			Flash Flood
	<p>Dike Road flooded 1/2 mile north of Highway 54.</p>								
<b>Butler County</b>									
5 N Augusta	11	1039CST 1435CST			0	0			Flash Flood
	<p>Southwest 50th/Ohio Street intersection barricaded.</p>								



# Storm Data and Unusual Weather Phenomena

September 2003

September 2003									
Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b><u>KANSAS, Southeast</u></b>									
<b>Butler County</b>									
3 SW El Dorado	11	1039CST 1435CST			0	0			Flash Flood
Southwest 20th/Hopkins Switch Road barricaded.									
<b>Butler County</b>									
Andover	11	1120CST 1435CST			0	0	10K		Flash Flood
Basements of 2 homes flooded. Extent of damage unknown, so initial damage estimate rough approximation until more details									
<b>Butler County</b>									
8 NW Towanda to 11 NW Towanda	11	1130CST 1435CST			0	0			Flash Flood
Tawakoni Road flooded from 5 miles north of Highway 254 to Northwest 30th Street. Flood depth averaged 2 feet.									
<b>Butler County</b>									
Haverhill	11	1145CST 1435CST			0	0			Flash Flood
Highway K-96/Haverhill Road intersection flooded.									
<b>Butler County</b>									
5 N El Dorado	11	1215CST 1435CST			0	0			Flash Flood
Walnut River bridge submerged 1/4 mile west of Highway 77.									
<b>Russell County</b>									
2 S Russell	22	0010CST			0	0			Hail (0.75)
<b>Ellsworth County</b>									
1 SW Holyrood	22	0042CST			0	0			Hail (0.88)
<b>Rice County</b>									
1 N Lyons	22	0110CST			0	0			Hail (0.88)
<b>Mcperson County</b>									
Inman	22	0140CST			0	0			Thunderstorm Wind (G52)
<b>Harvey County</b>									
1 E Newton	22	0209CST			0	0			Thunderstorm Wind (G52)
<b>Reno County</b>									
6 E Hutchinson	22	0324CST			0	0			Hail (0.88)
<b>Reno County</b>									
5 W Hutchinson	22	0357CST			0	0			Hail (1.00)
<b>Harvey County</b>									
2 N Halstead	22	0358CST			0	0			Hail (0.75)
<b>Marion County</b>									
Goessel	22	0405CST			0	0			Thunderstorm Wind (G53)
KSN Weatherlab.									
<b>Reno County</b>									
1 N Hutchinson	22	0413CST			0	0			Hail (0.75)
<b>Sedgwick County</b>									
2 NE Wichita	22	0416CST			0	0			Hail (1.00)
Radio station KFDL.									
<b>Sedgwick County</b>									
Park City	22	0417CST			0	0			Hail (1.00)
Radio station KFDL.									
<b>Sedgwick County</b>									
2 NE Wichita	22	0419CST			0	0			Hail (1.00)
<b>Sedgwick County</b>									
Kechi	22	0422CST			0	0			Hail (0.75)

# Storm Data and Unusual Weather Phenomena

September 2003

									September 2003
Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	
<b><u>KANSAS, Southeast</u></b>									
<b>Butler County</b>									
Andover	22	0430CST			0	0			Hail (0.75)
<b>Butler County</b>									
Andover	22	0430CST			0	0			Hail (1.00)
<b>Sedgwick County</b>									
Mt Hope	22	0433CST			0	0			Hail (0.75)
<b>Sedgwick County</b>									
Mt Hope	22	0433CST			0	0			Thunderstorm Wind (G52)
<b>Butler County</b>									
Andover	22	0436CST			0	0			Hail (0.75)
<b>Sedgwick County</b>									
Derby	22	0437CST			0	0			Hail (1.00)
<b>Butler County</b>									
2 N Rose Hill	22	0440CST			0	0			Hail (0.88)
<b>Kingman County</b>									
4 E Penalosa	22	0445CST			0	0			Hail (0.75)
<b>Butler County</b>									
Douglass	22	0455CST			0	0			Hail (0.88)
<b>Sedgwick County</b>									
3 E Wichita	22	0500CST			0	0			Hail (1.00)
<b>Chautauqua County</b>									
2 S Hale	26	1740CST			0	0			Hail (1.50)
<b>Montgomery County</b>									
2 S Independence	26	1753CST			0	0			Thunderstorm Wind (G54)
A six inch diameter tree limb had been blown out of a tree.									
<b>Montgomery County</b>									
2 N Caney	26	1802CST			0	0			Thunderstorm Wind (G60)
<b>Montgomery County</b>									
Caney	26	1804CST			0	0			Hail (0.75)
<b>Montgomery County</b>									
Caney	26	1804CST			0	0			Thunderstorm Wind (G60)
<b><u>KANSAS, Southwest</u></b>									
<b>Morton County</b>									
10 NW Richfield	09	1500CST			0	0			Hail (0.75)
<b>Stanton County</b>									
3 E Johnson	09	1514CST			0	0			Hail (0.88)
<b>Grant County</b>									
8 W Ulysses	09	1545CST			0	0			Hail (0.75)
<b>Kearny County</b>									
12 SW Lakin	09	1552CST			0	0			Hail (1.00)
<b>Grant County</b>									
4 NW Ulysses	09	1554CST			0	0			Hail (0.88)
<b>Kearny County</b>									
3 N Deerfield	09	1605CST			0	0			Hail (1.00)

# Storm Data and Unusual Weather Phenomena

September 2003

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## **KANSAS, Southwest**

### **Kearny County**

1 SE Lakin	09	1615CST			0	0			Hail (1.00)
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### **Finney County**

1 S Friend	09	1618CST			0	0			Hail (0.88)
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### **Grant County**

9 N Ulysses	09	1633CST			0	0			Hail (1.75)
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### **Scott County**

2 E Scott City	09	1649CST			0	0			Hail (0.88)
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### **Scott County**

Scott City	09	1700CST			0	0			Hail (1.00)
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### **Stanton County**

8 N Big Bow	09	1755CST			0	0			Hail (1.75)
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### **Kearny County**

14 SW Lakin	09	1807CST			0	0			Hail (1.00)
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### **Morton County**

10 W Richfield	10	0055CST			0	0			Thunderstorm Wind (G65)
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### **Morton County**

18 NNE Elkhart	10	0125CST			0	0			Hail (0.88)
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### **Stanton County**

Johnson	10	0136CST			0	0			Thunderstorm Wind (G53)
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### **Ford County**

1 E Dodge City	10	0342CST			0	0			Thunderstorm Wind (G56)
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Measured by backup wind equipment.

### **Ness County**

10 SW Ness City	10	0345CST			0	0			Thunderstorm Wind (G51)
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### **Finney County**

Garden City	10	0300CST			0	0			Thunderstorm Wind (G56)
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Two to three diameter limbs were blown down.

### **Ness County**

4 NW Ransom	10	1510CST			0	0			Hail (0.75)
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### **Hodgeman County**

13 NE Jetmore	10	1515CST			0	0			Hail (1.00)
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### **Ellis County**

11 SW Hays	10	1525CST			0	0			Hail (0.75)
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### **Ness County**

7 SW Bazine	10	1530CST			0	0			Hail (1.25)
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### **Ness County**

2 W Bazine	10	1545CST			0	0			Hail (1.50)
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### **Trego County**

4 N Trego Center	10	1551CST			0	0			Hail (0.75)
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### **Clark County**

8 SW Minneola	10	1600CST			0	0			Hail (1.00)
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### **Rush County**

7 N Mc Cracken	10	1600CST			0	0			Hail (0.88)
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# Storm Data and Unusual Weather Phenomena

September 2003

September 2003									
Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
Killed	Injured	Property	Crops						
<b><u>KANSAS, Southwest</u></b>									
<b>Clark County</b>									
1 E Minneola	10	1610CST			0	0			Hail (0.75)
<b>Meade County</b>									
6 NE Fowler	10	1615CST			0	0			Hail (0.88)
<b>Ford County</b>									
9 S Dodge City	10	1645CST			0	0			Hail (1.00)
<b>Pawnee County</b>									
6 WNW Garfield	10	1650CST			0	0			Hail (1.00)
<b>Edwards County</b>									
10 N Kinsley	10	1653CST			0	0			Hail (0.75)
<b>Pawnee County</b>									
19 SW Larned	10	1700CST			0	0			Hail (0.88)
<b>Rush County</b>									
7 N Mc Cracken	10	1700CST			0	0			Hail (1.50)
<b>Rush County</b>									
7 N Mc Cracken	10	1700CST			0	0			Thunderstorm Wind (G52)
<b>Hodgeman County</b>									
4 SE Hanston	10	1705CST			0	0			Hail (1.00)
<b>Ness County</b>									
9 NE Ness City	10	1710CST			0	0			Thunderstorm Wind (G56)
<b>Ellis County</b>									
8 S Hays	10	1715CST			0	0			Thunderstorm Wind (G52)
Two inch diameter tree limbs were blown down.									
<b>Rush County</b>									
6 N Mc Cracken to 7 N Mc Cracken	10 11	1800CST 0200CST			0	0			Flash Flood
Water was reported over many roads.									
<b>Haskell County</b>									
Sublette	10	1858CST			0	0			Thunderstorm Wind (G53)
<b>Gray County</b>									
Copeland	10	1917CST			0	0			Thunderstorm Wind (G61)
Three inch diameter tree limbs were blown down.									
<b>Ellis County</b>									
Hays	10 11	2000CST 0300CST			0	0			Flash Flood
Numerous county roads were flooded.									
<b>Gray County</b>									
4 N Ensign	10	2040CST			0	0			Thunderstorm Wind (G56)
<b>Ness County</b>									
15 NNE Bazine	10 11	2055CST 0200CST			0	0			Flash Flood
Many roads in the northeast corner of the county had two to three feet of water flowing over them.									
<b>Ellis County</b>									
Hays	10	1720CST			0	2			Lightning
Two Fort Hays students (female) received minor injuries when light struck a tree about 20 feet away. They were treated and released from an area hospital.									
<b>Morton County</b>									
7 SE Richfield	20	1540CST 1542CST			0	0			Hail (0.88)

## Storm Data and Unusual Weather Phenomena

Time Local/	Path Length	Path Width	Number of Persons	Estimated Damage
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September 2003									
Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
Property	Crops								
<b><u>KANSAS, Southwest</u></b>									
<b>Morton County</b>									
6 N Rolla	20	1545CST			0	0			Hail (1.75)
<b>Morton County</b>									
9 N Rolla	20	1545CST			0	0			Hail (1.00)
<b>Stevens County</b>									
5 NW Feterita	20	1610CST			0	0			Hail (1.50)
<b>Stevens County</b>									
12 NW Hugoton	20	1612CST			0	0			Hail (0.75)
<b>Stevens County</b>									
6 SW Woods	20	1715CST			0	0			Hail (0.88)
<b>Stevens County</b>									
8 SW Woods	20	1726CST			0	0			Hail (1.50)
<b>Seward County</b>									
7 W Liberal	20	1815CST			0	0			Hail (0.88)
<b>Ellis County</b>									
6 NW Schoenchen	22	0258CST			0	0			Hail (0.88)
<b>Rush County</b>									
Liebenthal	22	0305CST			0	0			Hail (0.75)
<b>Stafford County</b>									
6 E Hudson	22	0345CST			0	0			Hail (0.88)
Leaves were stripped from the trees									
<b>Ellis County</b>									
10 W Hays	22	0405CST			0	0			Hail (0.88)
<b>Ellis County</b>									
Hays	22	0414CST			0	0			Hail (0.88)
<b>Rush County</b>									
6 NW Otis	22	0430CST			0	0			Hail (0.88)
<b>Rush County</b>									
2 SE Loretta	22	0433CST			0	0			Hail (0.88)
<b><u>KENTUCKY, Central</u></b>									
<b>Taylor County</b>									
Countywide	02	1200EST 1340EST			0	0			Flash Flood
Mt. Carmel Road and Palestine Road were covered with water. Gilboa Road was closed due to high water. Taylors Chapel Road was covered with flowing water and mud and was closed.									
<b>Ohio County</b>									
Hartford	03	1600EST 1700EST			0	0			Flash Flood
Mount Vernon Road, Lake Lane, and Round Hill Road were all closed and barricaded due to high water.									
<b>Larue County</b>									
Athertonville	03	1910EST 2010EST			0	0			Flash Flood
The Rolling Fork River was out of its banks and approaching the doors of some homes.									
<b>Barren County</b>									
Countywide	03	2100EST 2300EST			0	0			Flash Flood
Several roads were covered with water and closed countywide.									
<b>KYZ045</b>									
<b>Nelson</b>									
	04 06	0410EST 0600EST			0	0			Flood
The Rolling Fork River at Boston crested at 38.8 feet at 5 AM EST on September 5. Flood stage at Boston is 35 feet. At the crest level, agricultural bottomland is flooded.									

## Storm Data and Unusual Weather Phenomena

Time Local/	Path Length	Path Width	Number of Persons	Estimated Damage
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Location	Date	Standard	(Miles)	(Yards)	Killed	Injured	Property	Crops	Character of Storm
<b><u>KENTUCKY, Central</u></b>									
<b>Jefferson County</b>									
Valley Station	27	0105EST			0	0			Thunderstorm Wind (G50)
									Numerous large limbs were downed.
<b>Jefferson County</b>									
Prospect	27	0115EST			0	0			Thunderstorm Wind (G60)
									A large tree was downed across Highway 1694 between Crestwood and Prospect.
<b>Meade County</b>									
Payneville	27	0133EST			0	0			Thunderstorm Wind (G50)
									Trees were downed.
<b><u>KENTUCKY, Eastern</u></b>									
<b>Wayne County</b>									
Countywide	01	0010EST 0200EST			0	0	0	0	Flash Flood
									Many roads were under water and trees were washed away. High water stranded some people.
<b>Clay County</b>									
Countywide	01	0050EST 0230EST			0	0	0	0	Flash Flood
									Several roads were covered in water.
<b>Clay County</b>									
1.5 ESE Deer Lick to Manchester	04	0400EST 0800EST			0	0	20K	0	Flash Flood
									Highway 687 was flooded for a seven to ten mile stretch, with several areas at least three feet deep. Several cars were partially submerged, ruining the engines. Several roads were also underwater in Manchester.
<b>Owsley County</b>									
1 S Island City	04	0404EST 0715EST			0	0	0	0	Flash Flood
									Eight to ten inches of water were over Route 1350. Water also flowed across driveways and into a barn.
<b>Laurel County</b>									
London	04	0510EST 0700EST			0	0	20K	0	Flash Flood
									The following roads were closed due to flash flooding: East Fourth Street at Tobacco Road, Tobacco Road from Green Street to Roosevelt Street, Middleground Way, Commercial Drive, and Spring Street. Water was reported to be as high as the fender wells on cars. One home was flooded along with several businesses.
<b>Breathitt County</b>									
Countywide	04	0600EST 0730EST			0	0	100K	0	Flash Flood
									Several trailer homes had water flooded in them at Low Hollow, along Kentucky Highway 30, about 2 miles southwest of Jackson. Several people were left temporarily homeless. Water was over the road at Caney Fork. The rushing floodwaters washed out bridge supports, shifted wooden bridges, and submerged several vehicles as water and mud fell from hillsides. An access tunnel road cut under railroad tracks was submerged along Kentucky Highway 52. Also along Kentucky Highway 52, a portion of a hillside fell onto the road near Chenowee, and closed both lanes. Along Kentucky Highway 30, a driver of a delivery truck drove through high water, and drove off the side of the road into a water-filled ditch, causing the truck to turn on its side. The driver was not injured, but merchandise was destroyed. Several roads were covered in water, including Wolverine Road, Highway 1098 (Southfork), and several roads off of Highway 1110. Trees were washed away countywide. Culverts were washed out on Clover Fork and Caney Fork. Two feet of water was reported at the junction of Kentucky Highway 30 and Route 397, and was up to the headlights of a pickup truck. Culverts were also washed out on Frozen Fork, along Route 205.
<b>KYZ114</b>									
Owsley	04	0830EST			0	0	0	0	Landslide
									There were two landslides blocking Kentucky Highway 11 near the Clay County line.
<b>Pike County</b>									
3 NE Pikeville	04	0830EST 1030EST			0	0	0	0	Flash Flood
									A few roads were covered with up to six inches of water. Several low water crossing bridges were under water. School was subsequently cancelled due to flooded roads.
<b>Breathitt County</b>									
2 N Dalesburg	16	1315EST			0	0	0	0	Hail (0.75)
									Three quarter inch hail was reported at Long's Creek from a co-operative observer.

## KENTUCKY, Northeast

NONE REPORTED.

# Storm Data and Unusual Weather Phenomena

September 2003

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## KENTUCKY, Northern

NONE REPORTED.

## KENTUCKY, Southwest

### **McLean County**

Livermore to Island	02	1500CST 1600CST			0	0			Heavy Rain
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Water was reportedly 6 to 8 inches deep over Highway 2110 for a 75-foot stretch between Livermore and Island.

### **Daviess County**

Owensboro	03	0400CST 0800CST			0	0			Heavy Rain
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Heavy rain flooded typical problem areas near Kentucky Wesleyan College. The saturation and softening of the ground weakened the hold of roots, causing large trees to tip over. Standing water in roadways caused vehicles to stall and become stranded on Carter Road and Millers Mill Road.

## LAKE ERIE

### **Dunkirk To Buffalo Ny**

Dunkirk	22	1951EST			0	0			Marine Tstm Wind
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### **Ripley To Dunkirk Ny**

Dunkirk	22	1951EST			0	0			Marine Tstm Wind
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### **Dunkirk To Buffalo Ny**

Dunkirk	23	0857EST			0	0			Marine Tstm Wind
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### **Ripley To Dunkirk Ny**

Dunkirk	23	0857EST			0	0			Marine Tstm Wind
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### **Dunkirk To Buffalo Ny**

Dunkirk	23	0902EST			0	0			Marine Tstm Wind
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### **Ripley To Dunkirk Ny**

Dunkirk	23	0902EST			0	0			Marine Tstm Wind
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### **Avon Point To**

### **Willowick Oh**

Avon Point to Willowick	26 27	2300EST 0030EST			0	0			Marine Tstm Wind
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### **Geneva On The Lake**

### **Oh To Conneaut Oh**

Geneva-On-The-Lake to Conneaut	26 27	2300EST 0030EST			0	0			Marine Tstm Wind
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### **Le Avon Pt To**

### **Willowick Oh Byd 5Nm**

### **Offshore To Intl Border**

Avon Point to Willowick	26 27	2300EST 0030EST			0	0			Marine Tstm Wind
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### **Le Geneva On The**

### **Lake To Conneaut Oh**

### **Byd 5Nm Offshore To**

### **Intl Border**

Geneva-On-The-Lake to Conneaut	26 27	2300EST 0030EST			0	0			Marine Tstm Wind
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### **Le Reno Beach To The**

### **Islands Oh Byd 5Nm**

### **Offshore To Intl Border**

Reno Beach to The Islands	26 27	2300EST 0030EST			0	0			Marine Tstm Wind
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# Storm Data and Unusual Weather Phenomena

September 2003

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
Killed	Injured	Property	Crops						
<b><u>LAKE ERIE</u></b>									
<b>Le The Islands To Vermilion Oh Byd 5Nm Offshore To Intl Border</b>									
The Islands to Vermilion	26 27	2300EST 0030EST			0	0			Marine Tstm Wind
<b>Le Vermilion To Avon Pt Oh Byd 5Nm Offshore To Intl Border</b>									
Avon Point	26 27	2300EST 0030EST			0	0			Marine Tstm Wind
<b>Le Willowick To Geneva On The Lake Oh Byd 5Nm Offshore To Intl Border</b>									
Willowick to Geneva-On-The-Lake	26 27	2300EST 0030EST			0	0			Marine Tstm Wind
<b>Reno Beach To The Islands Oh</b>									
Reno Beach to The Islands	26 27	2300EST 0030EST			0	0			Marine Tstm Wind
<b>The Islands To Vermilion Oh</b>									
The Islands to Vermilion	26 27	2300EST 0030EST			0	0			Marine Tstm Wind
<b>Vermilion To Avon Point Oh</b>									
Vermilion to Avon Point	26 27	2300EST 0030EST			0	0			Marine Tstm Wind
<b>Willowick To Geneva On The Lake Oh</b>									
Willowick to Geneva-On-The-Lake	26 27	2300EST 0030EST			0	0			Marine Tstm Wind
Strong thunderstorms moved east across Lake Erie and produced wind gusts in excess of 35 knots.									
<b>Ripley To Dunkirk Ny Dunkirk</b>									
Dunkirk	27	0326EST			0	0			Marine Tstm Wind
<b>Dunkirk To Buffalo Ny Dunkirk</b>									
Dunkirk	27	0335EST			0	0			Marine Tstm Wind
<b>Buffalo Hbr And Upr Niagara R</b>									
Grand Island	27	0405EST			0	0			Marine Tstm Wind
<b>Willowick To Geneva On The Lake Oh</b>									
Willowick to Geneva-On-The-Lake	28	1704EST			0	0			Waterspout
A waterspout was observed on Lake Erie three miles north of Fairport Harbor moving east. No damage occurred.									
<b>Avon Point To Willowick Oh</b>									
Avon Point to Willowick	28	1730EST 1900EST			0	0			Marine Tstm Wind
<b>Conneaut Oh To Ripley Ny</b>									
Ripley Ny	28	1730EST 1900EST			0	0			Marine Tstm Wind



## Storm Data and Unusual Weather Phenomena

Time Local/	Path Length	Path Width	Number of Persons	Estimated Damage
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Location	Date	Standard	(Miles)	(Yards)	Killed	Injured	Property	Crops	Character of Storm
<b><u>LAKE ERIE</u></b>									
<b>Geneva On The Lake Oh To Conneaut Oh</b>									
Geneva-On-The-Lake to Conneaut	28	1730EST 1900EST			0	0			Marine Tstm Wind
<b>Le Avon Pt To Willowick Oh Byd 5Nm Offshore To Intl Border</b>									
Avon Point to Willowick	28	1730EST 1900EST			0	0			Marine Tstm Wind
<b>Le Conneaut Oh To Ripley Ny Byd 5Nm Offshore To Intl Border</b>									
Conneaut to Ripley Ny	28	1730EST 1900EST			0	0			Marine Tstm Wind
<b>Le The Islands To Vermilion Oh Byd 5Nm Offshore To Intl Border</b>									
The Islands to Vermilion	28	1730EST 1900EST			0	0			Marine Tstm Wind
<b>Le Vermilion To Avon Pt Oh Byd 5Nm Offshore To Intl Border</b>									
Vermilion to Avon Point	28	1730EST 1900EST			0	0			Marine Tstm Wind
<b>Le Willowick To Geneva On The Lake Oh Byd 5Nm Offshore To Intl Border</b>									
Willowick to Geneva-On-The-Lake	28	1730EST 1900EST			0	0			Marine Tstm Wind
<b>The Islands To Vermilion Oh</b>									
The Islands to Vermilion	28	1730EST 1900EST			0	0			Marine Tstm Wind
<b>Vermilion To Avon Point Oh</b>									
Vermilion to Avon Point	28	1730EST 1900EST			0	0			Marine Tstm Wind
<b>Willowick To Geneva On The Lake Oh</b>									
Willowick to Geneva-On-The-Lake	28	1730EST 1900EST			0	0			Marine Tstm Wind
Strong thunderstorms moved east across Lake Erie and produced wind gusts in excess of 35 knots.									
<b>Willowick To Geneva On The Lake Oh</b>									
Willowick to Geneva-On-The-Lake	29	1741EST 1750EST			0	0			Waterspout
A waterspout was observed on Lake Erie just offshore from Eastlake moving northeast. The waterspout persisted for several minutes, but caused no damage.									
<b>Willowick To Geneva On The Lake Oh</b>									
Willowick to Geneva-On-The-Lake	29	1746EST 1750EST			0	0			Waterspout
A waterspout was observed on Lake Erie just offshore from Mentor moving northeast. No damage occurred.									

# Storm Data and Unusual Weather Phenomena

September 2003

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## LAKE HURON

Presque Isl Lt To  
Sturgeon Pt Mi

Black River	03	1616EST			0	0			Marine Tstm Wind
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Lh Presque Isl Lt To  
Alabaster Mi Ewd Byd  
5Nm Offshore To Intl  
Border

12 NE Sturgeon Point	03	1622EST			0	0			Marine Tstm Wind
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5Nm E Of Mackinac  
Bridge To Presque Isle  
Lt Mi

Presque Isle Light	30	1852EST			0	0			Marine Tstm Wind
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Lh 5Nm E Of  
Mackinac Bridge To  
Presque Isl Lt Mi Ewd  
Byd 5Nm Offshore To  
Intl Border

7 N Presque Isle Light	30	1852EST			0	0			Marine Tstm Wind
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Lh Presque Isl Lt To  
Alabaster Mi Ewd Byd  
5Nm Offshore To Intl  
Border

7 E Presque Isle Light	30	1852EST			0	0			Marine Tstm Wind
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Presque Isl Lt To  
Sturgeon Pt Mi

Presque Isle Light	30	1852EST			0	0			Marine Tstm Wind
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## LAKE MICHIGAN

Grand Haven To  
Whitehall Mi

Muskegon Harbor	15	0705EST			0	0			Marine Tstm Wind
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The coastal observing station in Muskegon harbor recorded a peak wind gust to 38 knots.

Grand Traverse Lt To  
Sleeping Bear Pt Mi

3 N Leland	15	1322EST			0	0			Waterspout
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Lm 5Nm W Of  
Mackinac Bridge To  
Manistee Mi Nwd  
Beyond 5Nm Offshore  
To Mid Line Of Lake

12 S South Fox Island	15	1322EST			0	0			Waterspout
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Norwood Mi To 5Nm  
W Of Mackinac Bridge

1 NW Norwood	15	1322EST			0	0			Waterspout
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Sleeping Bear Pt To  
Manistee Mi

Sleeping Bear Point	15	1322EST			0	0			Waterspout
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South Haven To  
Holland Mi

Saugatuck Harbor to Saugatuck Dnes St Prk	22	1930EST			0	0			Marine Tstm Wind
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A measured peak wind gust to 35 knots was recorded by a coastal observation station in Saugatuck.



# Storm Data and Unusual Weather Phenomena

September 2003

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## MAINE, North

NONE REPORTED.

## MAINE, South

<b>MEZ018&gt;019-023&gt;028</b>	<b>Interior York - Interior Cumberland - Coastal York - Coastal Cumberland - Sagadahoc - Lincoln - Knox - Coastal Waldo</b>	<b>23</b>	<b>1300EST</b>		<b>0</b>	<b>0</b>	<b>4K</b>		<b>Strong Wind</b>
			<b>1900EST</b>						

Strong, gusty south winds downed tree limbs onto power lines causing scattered power outages. About 5700 customers were affected by power outages, mostly in the Portland, Brunswick, and Rockland areas. Winds gusted to 35 mph (measured) at Portland and 33 mph (measured) at Brunswick.

## MARYLAND, Central

NOT RECEIVED.

## MARYLAND, Northeast

<b>Cecil County</b>									
<b>Northwest Portion</b>	<b>15</b>	<b>1700EST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
		<b>2000EST</b>							
Extremely heavy rain across Chester County forced operators at the Octoraro Reservoir in Chester County to open gates at that site. This caused downstream flooding along the Octoraro Creek in northwestern Cecil County.									
<b>Caroline County</b>									
<b>Countywide</b>	<b>18</b>	<b>1100EST</b>			<b>0</b>	<b>0</b>			<b>Heavy Rain</b>
		<b>2300EST</b>							
<b>Talbot County</b>									
<b>Countywide</b>	<b>18</b>	<b>1100EST</b>			<b>0</b>	<b>0</b>			<b>Heavy Rain</b>
		<b>2300EST</b>							
<b>Queen Anne'S County</b>									
<b>Countywide</b>	<b>18</b>	<b>1200EST</b>			<b>0</b>	<b>0</b>			<b>Heavy Rain</b>
	<b>19</b>	<b>0000EST</b>							
<b>Kent County</b>									
<b>Countywide</b>	<b>18</b>	<b>1300EST</b>			<b>0</b>	<b>0</b>			<b>Heavy Rain</b>
	<b>19</b>	<b>0100EST</b>							
<b>Cecil County</b>									
<b>Countywide</b>	<b>18</b>	<b>1400EST</b>			<b>0</b>	<b>0</b>			<b>Heavy Rain</b>
	<b>19</b>	<b>0200EST</b>							
<b>MDZ012-015-019&gt;020</b>	<b>Kent - Queen Annes - Talbot - Caroline</b>	<b>18</b>	<b>1400EST</b>		<b>0</b>	<b>0</b>			<b>Tropical Storm</b>
		<b>19</b>	<b>0500EST</b>						
<b>MDZ008</b>	<b>Cecil</b>	<b>18</b>	<b>1600EST</b>		<b>0</b>	<b>0</b>			<b>High Wind (G50)</b>
		<b>19</b>	<b>0500EST</b>						
<b>MDZ008-012-015-019&gt;020</b>	<b>Cecil - Kent - Queen Annes - Talbot - Caroline</b>	<b>19</b>	<b>0000EST</b>		<b>0</b>	<b>0</b>			<b>Storm Surge</b>
			<b>1700EST</b>						

Tropical Storm Isabel caused a record breaking tide and storm surge up the Chesapeake Bay, heavy rain and strong power outage producing winds. Isabel made landfall as a hurricane near Drum Inlet, North Carolina around 100 p.m. EDT on the 18th and weakened as it tracked farther inland. At one time in its life cycle, it was a powerful Category 5 hurricane when it was north of the Leewood Islands. Isabel's track took it west of the bay and was able to funnel water into the bay. This caused flooding along coastal areas into Cecil County. A record breaking high tide of 7.91 feet above mean lower low water was observed at Tolchester Beach (Kent County). The surge was 6.88 feet. Tidal flooding problems began after Midnight EDT on the 19th and continued throughout the day on the 19th. The surge was so strong that it negated the normal tide cycle in the bay. Evacuations occurred near the bay. For example, in Kent County emergency management officials evacuated residents along Eastern Neck Road (State Route 455) from Rock Hall to the Eastern Neck Island. Tidal flooding occurred in and around Rock Hall, Chestertown, Skinners Neck, Piney Neck and Cliffs City. Tidal flooding carried inland on the Chester River to Chestertown. Over 100 homes, vehicles and boats were damaged and/or ruined. In addition, eleven marinas, three restaurants, two hotels, two Bed and Breakfast facilities, one boat building business and one marine

# Storm Data and Unusual Weather Phenomena

September 2003

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## MARYLAND, Northeast

railway reported major damage. The heavy rain did not coincide with the tidal flooding and occurred mainly from the afternoon of the 18th into the early morning of the 19th. There were no reports of stream related flooding due to the heavy rain. Because the heaviest rain with tropical systems often falls west of its storm track, the region was spared heavier rain. On the other hand, the strongest winds are often on the right side of the storm track. Winds gusted up to 58 mph in the bay and caused numerous trees, tree limbs and power lines to be knocked down. This was one of the worst power outage events in history for Conectiv Energy. About 65,750 homes and businesses lost power with half of the outages in Cecil County.

Peak wind gusts included 58 mph in Cambridge (Dorchester County), 55 mph at the Baltimore-Washington International Airport and 44 mph in Tolchester Beach. Storm totals included 3.40 inches in Federalsburg (Caroline County), 3.13 inches in Denton (Caroline County), 2.97 inches in Saint Michaels (Talbot County), 2.14 inches in Stevensville (Queen Anne's County) and 2.03 inches at the Conowingo Dam (Cecil County).

<b>Kent County</b> Countywide	23	0500EST 0545EST			0	0			Thunderstorm Wind (G50)
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<b>Queen Anne'S County</b> Countywide	23	0500EST 0545EST			0	0			Thunderstorm Wind (G50)
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A line of severe thunderstorms knocked down several trees and wires throughout Kent and Queen Anne's Counties. The worst reported damage was in Kennedyville in Kent County and Queenstown in Queen Anne's County.

<b>Talbot County</b> Easton	23	0545EST			0	0			Thunderstorm Wind (G52)
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A line of severe thunderstorms knocked down trees and wires and damaged a chicken coop in Easton.

## MARYLAND, South

NOT RECEIVED.

## MARYLAND, West

<b>Garrett County</b> Gorman	01	1820EST 1920EST			0	0			Flash Flood
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<b>MDZ001</b> Garrett	18	2330EST			0	0	5K		High Wind (G52)
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Remnants of Hurricane Isabel caused wind gusts in the neighborhood of 60 mph, knocking down trees and utility lines. Isabel passed over Pittsburgh Pa around 8 AM EDT on the 19th. Wind gusts from Isabel started after 7 PM on the 18th and continued, from time to time, through the afternoon of the 19th.

<b>Garrett County</b> Oakland	19	0115EST 0415EST			0	0			Flash Flood
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After nearly 6 inches of rain, streams overflowed and flooded many roads around Oakland.

<b>MDZ001</b> Garrett	19	0345EST 0700EST			0	0			Flood
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Numerous roads remain flooded between Oakland and Grantsville.

<b>Garrett County</b> Oakland	27	1534EST			0	0			Hail (0.75)
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<b>Garrett County</b> Swanton	27	1542EST			0	0			Hail (1.00)
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## MASSACHUSETTS, Central and East

<b>Hampden County</b> Granville to Blandford	23	1010EST			0	0	5K		Thunderstorm Wind (G50)
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<b>Hampden County</b> Southwick to Westfield	23	1053EST 1300EST			0	0	15K		Flash Flood
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<b>Hampshire County</b> Northampton to Amherst	23	1100EST 1300EST			0	0	10K		Flash Flood
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# Storm Data and Unusual Weather Phenomena

September 2003

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## MASSACHUSETTS, Central and East

A severe thunderstorm downed large tree limbs in Granville and Blandford. Torrential rainfall from the thunderstorm cause significant urban flooding. Several roads were closed due to flooding, including part of Route 202 in Southwick. In Springfield, eight people were rescued after they became stranded in flooded vehicles. In Westfield, flooding closed the intersection of Springfield Road and East Mountain Road, where three feet of water covered the road. In Northampton, North Street was closed due to flooding. Police closed off several roads in Springfield temporarily, including the Dwight Street exit from I-291, Tapley Street, Parker Street, Roosevelt Avenue, and Tiffany Street. In Holyoke, flooding affected the underpasses at Commercial, Sargeant, Mosier, and Bower Streets. Other hard hit areas included Hampshire Street, Route 5, and Bemis Road.

### **Hampden County**

Agawam to Westfield	28	1100EST 1800EST			0	0	20K		Flash Flood
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### **Hampshire County**

Easthampton to Northampton	28	1300EST 1800EST			0	0	15K		Flash Flood
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### **Franklin County**

Greenfield	28	1400EST 1800EST			0	0	10K		Flash Flood
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Torrential rainfall caused flash flooding in the Connecticut River Valley. Nearly 4 inches of rain fell in a few hours, causing significant urban flooding from Agawam to Northampton. Several roads were closed in Westfield, Agawam, Chicopee, West Springfield, Easthampton, and Northampton where flood waters rose up to the doors of vehicles. In Greenfield, the Green River rose out of its banks and forced the closure of Nash's Mill Road between Colrain and Leyden Roads.

### **Hampden County**

Westfield	29	1542EST			0	0			Hail (0.75)
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A severe thunderstorm produced dime sized hail in Westfield.

## MASSACHUSETTS, West

NONE REPORTED.

## MICHIGAN, East

### **Lenawee County**

4 E Addison	24	1835EST			0	0			Thunderstorm Wind (G54)
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A trained weather spotter reported 16 inch diameter tree limbs down.

### **Lenawee County**

3 NW Onsted	24	1835EST			0	0			Thunderstorm Wind (G52)
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A trained weather spotter estimated 60 mph thunderstorm wind gusts.

### **Lenawee County**

Addison	24	1855EST			0	0			Thunderstorm Wind (G56)
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Spotters reported trees blown down.

### **Lenawee County**

Onsted	24	1855EST			0	0			Thunderstorm Wind (G56)
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A trained weather spotter reported trees blown down.

## MICHIGAN, Extreme Southwest

### **Hillsdale County**

8 NE Hillsdale	24	1750EST			0	0	0		Thunderstorm Wind (G50)
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Emergency management reported trees down northeast of Hillsdale.

### **Hillsdale County**

North Adams	24	1800EST			0	0	0		Thunderstorm Wind (G50)
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Emergency management reported trees down in North Adams.

## MICHIGAN, North

### **Benzie County**

2 S Frankfort	15	1204EST			0	0			Hail (0.75)
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A strong upper level disturbance contributed to widespread thunderstorms. A large number of these produced small hail, though only one report of severe-criteria hail was received. Some waterspouts also occurred over nearby waters of the Great Lakes.

# Storm Data and Unusual Weather Phenomena

September 2003

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## MICHIGAN, Upper

### **MIZ001**

#### **Keweenaw**

**19 1847EST**  
**2021EST**

**0 0**

**High Wind (G60)**

A deep surface low pressure system tracked from the northern plains across western Lake Superior on September 19. High winds developed over the Keweenaw Peninsula and over Lake Superior, as the low deepened and moved into Ontario. West winds gusted as high as 57 mph at Houghton, and the Stannard Rock lighthouse measured a sustained wind of 53 knots, or 61 mph, during the early evening. Broken trees and branches knocked down power lines with power outages lasting into the night in several communities.

## MICHIGAN, West

### **Allegan County**

#### **Wayland**

**15 1108EST**

**0 0**

**5K**

**Hail (0.75)**

An isolated severe thunderstorm produced three quarters inch diameter hail in Wayland.

### **Barry County**

#### **Middleville**

**24 1630EST**

**0 0**

**5K**

**Hail (0.75)**

Three quarters inch hail was reported with an isolated severe thunderstorm two miles south of Middleville.

## MINNESOTA, Central and South Central

### **Anoka County**

#### **Blaine**

**26 1530CST**

**0 0**

**Funnel Cloud**

Near Lexington and 109th.

## MINNESOTA, Northeast

NONE REPORTED.

## MINNESOTA, Northwest

### **Polk County**

#### **4 NW Eldred**

**17 0010CST**

**0 0**

**Hail (0.75)**

### **Lake Of The Woods County**

#### **Angle Inlet**

**17 0015CST**

**0 0**

**Hail (0.75)**

### **Marshall County**

#### **1 NE Grygla**

**17 0200CST**

**0 0**

**Hail (0.88)**

### **Wilkin County**

#### **5 SE Wolverton**

**17 1112CST**

**0 0**

**Hail (0.75)**

### **Becker County**

#### **.5 E Cormorant**

**17 1205CST**

**0 0**

**Hail (0.88)**

### **Otter Tail County**

#### **5 E Dunvilla**

**17 1218CST**

**0 0**

**Hail (1.00)**

### **Becker County**

#### **1 NW Cormorant**

**17 1240CST**

**0 0**

**Hail (0.75)**

### **Polk County**

#### **Crookston**

**17 1250CST**

**0 0**

**Hail (1.00)**

### **Polk County**

#### **5 NE Crookston**

**17 1300CST**

**0 0**

**Hail (0.88)**

### **Lake Of The Woods County**

#### **1 S Williams**

**17 1610CST**

**0 0**

**Hail (1.50)**

### **Marshall County**

#### **2 E Holt**

**17 1630CST**

**0 0**

**Hail (1.25)**

### **Marshall County**

#### **6 N Gatzke**

**17 1655CST**

**0 0**

**Hail (0.75)**

# Storm Data and Unusual Weather Phenomena

September 2003

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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## MINNESOTA, Northwest

Roseau County 3 SE Pencer	17	1740CST			0	0			Hail (1.25)
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Roseau County Warroad	17	1750CST			0	0			Hail (0.75)
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Lake Of The Woods County Arnesen	17	1800CST			0	0			Hail (0.75)
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## MINNESOTA, Southeast

NONE REPORTED.

## MINNESOTA, Southwest

NONE REPORTED.

## MINNESOTA, West

NONE REPORTED.

## MINNESOTA, West Central

NONE REPORTED.

## MISSISSIPPI, Central

Jasper County Louin	09	1710CST			0	0	1K		Hail (0.75)
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## MISSISSIPPI, North

NONE REPORTED.

## MISSISSIPPI, South

NONE REPORTED.

## MISSISSIPPI, Southeast

NONE REPORTED.

## MISSOURI, East

Boone County Ashland	21	1605CST			0	0			Hail (0.75)
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Boone County Ashland	21	1605CST			0	0			Thunderstorm Wind (G50)
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Storm spotters reported 3/4 inch hail and wind gusts of 50 to 60 mph.

Lewis County Canton	26	1350CST			0	0			Hail (1.25)
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Officials at Lock and Dan 20 reported 1 1/4 inch hail.

Ralls County 6 E Rensselaer	26	1505CST			0	0			Thunderstorm Wind (G60)
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A local golf course reported trees down.

Marion County Hannibal	26	1510CST			0	0			Thunderstorm Wind (G55)
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A few trees were reported down in Hannibal.



# Storm Data and Unusual Weather Phenomena

September 2003

									September 2003
Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage	Character of Storm	
MISSOURI, East									
Ralls County									
New London	26	1520CST			0	0			Thunderstorm Wind (G55)
The County Sheriff office reported trees down in New London.									
Boone County									
Columbia	26	1545CST			0	0			Hail (0.75)
Storm spotters reported 3/4 inch hail just north if I-70 in Columbia.									
Moniteau County									
Tipton	26	1600CST			0	0			Thunderstorm Wind (G60)
The County Sheriff office reported some traffic lights and wires down in Tipton.									
Moniteau County									
Clarksburg	26	1610CST			0	0			Thunderstorm Wind (G55)
Thunderstorm wind gusts broke a power pole on the northeast side of Clarksburg.									
Pike County									
5 N Clarksville	26	1615CST			0	0			Thunderstorm Wind (G55)
Amateur radio spotters reported trees down on Highway 79 north of Clarksville.									
Callaway County									
Fulton	26	1630CST			0	0			Thunderstorm Wind (G55)
Scattered trees and power lines were reported down in various parts of Fulton.									
Lincoln County									
Troy	26	1638CST			0	0			Thunderstorm Wind (G55)
Amateur radio spotters reported power lines down on the north side of Troy.									
St. Charles County									
Wentzville	26	1654CST			0	0			Thunderstorm Wind (G55)
The County Sheriff office reported trees down on Piney Road near Highway 40/61.									
St. Louis County									
Chesterfield	26	1712CST			0	0			Thunderstorm Wind (G55)
Local police reported a downed tree which fell on a power pole causing a power outage.									
St. Louis County									
Ferguson	26	1735CST			0	0			Thunderstorm Wind (G55)
Amateur radio spotters reported scattered trees down across North St. Louis County, primarily in the Ferguson area. One home suffered minor damage due to a downed tree.									
Franklin County									
1 W Sullivan	26	1815CST 1816CST	0.2	50	0	0			Tornado (F0)
The County Sheriff office reported a brief tornado just west of Sullivan along I-44. Some highway billboards were blown down and trees uprooted.									
Franklin County									
Sullivan	26	1820CST			0	0			Funnel Cloud
Franklin County									
Sullivan	26	1820CST			0	0			Hail (0.75)
Amateur radio spotters reported a funnel cloud and 3/4 inch hail in Sullivan.									
Franklin County									
Stanton	26	1830CST			0	0			Thunderstorm Wind (G60)
The County Sheriff office reported Highway billboards blown down along I-44 near Stanton.									
Jefferson County									
Pevely	26	1830CST			0	1			Thunderstorm Wind (G55)
Thunderstorm wind gusts caused problems at the Pevely Fall Festival. Several tents were blown down and booths damaged. One woman suffered minor injuries when she was struck by a tent pole.									

## **MISSOURI, Lower**

NONE REPORTED.

# Storm Data and Unusual Weather Phenomena

September 2003

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## MISSOURI, Northeast

NONE REPORTED.

## MISSOURI, Northwest

**MOZ031-040-046**

**Carroll - Howard - Cooper**

**01 0100CST**

**0**

**0**

**Flood**

**02 0400CST**

Heavy rains helped produce minor flooding on Moniteau Creek, Wakenda Creek , and Petite Saline Creek. Moniteau Creek near Fayette crested at 18.25 feet or 2.25 feet above flood stage. Wakenda Creek at Carrollton crested at 20.0 feet or right at flood stage. Petite Saline Creek near Boonville crested at 18.43 feet or 2.43 above flood stage.

**Jackson County**

**2 N Blue Spgs**

**26**

**1355CST**

**0**

**0**

**Hail (0.75)**

**Lafayette County**

**Odessa**

**26**

**1415CST**

**0**

**0**

**Hail (1.50)**

**Lafayette County**

**Odessa**

**26**

**1415CST**

**0**

**0**

**Thunderstorm Wind (G52)**

**Cass County**

**Freeman**

**26**

**1450CST**

**0**

**0**

**Hail (0.75)**

**Henry County**

**3 NW Ulrich**

**26**

**1530CST**

**0**

**0**

**Hail (1.00)**

**Henry County**

**Clinton**

**26**

**1600CST**

**0**

**0**

**Hail (0.75)**

## MISSOURI, Southeast

**Butler County**

**Poplar Bluff to  
3 N Poplar Bluff**

**02**

**1212CST  
1600CST**

**0**

**0**

**Flash Flood**

**Wayne County**

**Countywide**

**02**

**1212CST  
1400CST**

**0**

**0**

**Flash Flood**

**Ripley County**

**Oxly to  
Naylor**

**02**

**1300CST  
1600CST**

**0**

**0**

**Flash Flood**

Heavy rain, estimated from 1 to 2 inches in a few hours, fell over saturated ground. Flood control channels around Wappapello Lake along D Highway were full. A bridge was washed out on Tower Road north of Poplar Bluff. In Butler County, two water rescues were conducted on County Road 525 when two vehicles became stranded in floodwater. On the southwest side of Poplar Bluff, two 13-year-old boys who were playing along a creek got swept into the creek. The boys ended up in Cane Creek and were found a couple of hours later with only scratches. In Poplar Bluff, low areas near downtown were flooded, with 6 to 12 inches of water on many streets. Some streets were barricaded as several cars stalled out. There were two buildings with basements flooded. Highway 142 was partially covered by water. A co-operative observer in Poplar Bluff measured a four-day rainfall total from August 30 to September 2 of 6.66 inches. In Ripley County, high water swept a car off a low-water bridge near Oxly. The driver was briefly stranded on top of his vehicle. Several low water bridges and gravel roads were flooded in Ripley County. Water was over Highway 53 about 5 miles south of Poplar Bluff, Highway 60 west of Poplar Bluff, and the Hillard Bridge on W Highway. A few bridges were washed out on back roads in the Neelyville area.

**Scott County**

**Countywide**

**02**

**1315CST  
1500CST**

**0**

**0**

**Heavy Rain**

**Cape Girardeau County**

**1 S Delta**

**02**

**1700CST  
1800CST**

**0**

**0**

**Heavy Rain**

Heavy rain on top of saturated ground caused low-lying flooding in Scott County. No property damage or road closures were reported. In Cape Girardeau County, Highway 25 was covered by water south of Delta, but no closure was reported. Rainfall was reported to be 0.75 inch per hour when the low-lying flooding occurred. Around 3 inches of rain fell in the previous 24 hours.

## Storm Data and Unusual Weather Phenomena

Time Local/	Path Length	Path Width	Number of Persons	Estimated Damage
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Location	Date	Standard	(Miles)	(Yards)	Killed	Injured	Property	Crops	Character of Storm
<b>MISSOURI, Southwest</b>									
<b>Morgan County</b>									
5 S Gravois Mills	01	0200CST 0300CST			0	0			Flash Flood
		Law enforcement officials observed several county roads and low water crossings flooded over.							
<b>Camden County</b>									
Climax Spgs	01	0700CST 0800CST			0	0			Flash Flood
		Several low water crossings in the northwestern section of Camden County were inundated.							
<b>Miller County</b>									
Eldon	01	0730CST 0830CST			0	0			Flash Flood
		A section of Highway Z was flooded over along with several area low water crossings.							
<b>Morgan County</b>									
Gravois Mills	01	1000CST 1100CST			0	0			Flash Flood
		Law enforcement officials observed a flooded over section of Highway O.							
<b>Texas County</b>									
4 S Houston	14 15	2340CST 0100CST			0	0	10K		Flash Flood
		Flash flood waters inundated a portion of Highway 63 south of the community of Houston. A dispatcher from the Texas County Sheriffs Office was washed off the road on her way home from work. A water rescue was performed.							
<b>Morgan County</b>									
Gravois Mills	18	1720CST			0	0			Thunderstorm Wind (G60)
		Law enforcement officials observed several downed trees from severe thunderstorm wind gusts.							
<b>Greene County</b>									
4 S Ash Grove	21	1527CST			0	0			Hail (0.75)
<b>Taney County</b>									
Walnut Shade	21	1748CST			0	0			Hail (0.75)
<b>Benton County</b>									
Lincoln	21	1815CST 1930CST			0	0			Flash Flood
		Several inches of water inundated a section of Highway 65. Numerous roads in and near the community of Lincoln experienced minor flooding.							
<b>Morgan County</b>									
Syracuse	26	1600CST			0	0			Hail (1.00)
<b>St. Clair County</b>									
Appleton City	26	1625CST			0	0			Hail (0.75)
<b>Morgan County</b>									
5 NE Versailles	26	1645CST			0	0			Thunderstorm Wind (G60)
		Several large tree branches were snapped off of trees from severe thunderstorm wind gusts.							
<b>Benton County</b>									
Warsaw	26	1650CST			0	0	0.50K		Thunderstorm Wind (G60)
		Numerous trees and power lines were downed from severe thunderstorm wind gusts.							
<b>Benton County</b>									
Fristoe	26	1705CST			0	0			Thunderstorm Wind (G60)
		Several large tree limbs were downed from severe thunderstorm wind gusts.							
<b>Vernon County</b>									
Richards	26	1710CST			0	0			Thunderstorm Wind (G60)
		Several trees were downed from severe thunderstorm wind gusts.							
<b>Hickory County</b>									
2 W Hermitage	26	1715CST			0	0			Thunderstorm Wind (G60)
		A large tree was downed across Highway 54 from severe thunderstorm wind gusts.							
<b>Camden County</b>									
7 N Climax Spgs	26	1720CST			0	0			Thunderstorm Wind (G60)
		Emergency management officials observed several downed trees over rural Camden County from severe thunderstorm wind gusts.							

## Storm Data and Unusual Weather Phenomena

Time Local/	Path Length	Path Width	Number of Persons	Estimated Damage
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September 2003									
Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed Injured		Estimated Damage Property Crops		Character of Storm
<b>MISSOURI, Southwest</b>									
<b>Vernon County</b> <b>2 W Bronaugh</b>	<b>26</b>	<b>1730CST</b>			<b>0</b>	<b>0</b>			<b>Hail (0.75)</b>
<b>Benton County</b> <b>Whitakerville</b>	<b>26</b>	<b>1800CST</b>			<b>0</b>	<b>0</b>			<b>Hail (0.75)</b>
<b>Dallas County</b> <b>3 SE Tunas</b>	<b>26</b>	<b>1806CST</b>			<b>0</b>	<b>0</b>			<b>Thunderstorm Wind (G60)</b>
			Several large tree limbs were downed from severe thunderstorm wind gusts.						
<b>Barton County</b> <b>5 E Lamar</b>	<b>26</b>	<b>1815CST</b>			<b>0</b>	<b>0</b>			<b>Hail (0.75)</b>
<b>Barton County</b> <b>Liberal</b>	<b>26</b>	<b>1815CST</b>			<b>0</b>	<b>0</b>			<b>Hail (0.75)</b>
<b>Barton County</b> <b>Lamar</b>	<b>26</b>	<b>1820CST</b>			<b>0</b>	<b>0</b>	<b>0.50K</b>		<b>Thunderstorm Wind (G65)</b>
			Law enforcement officials observed downed power lines from severe thunderstorm wind gusts.						
<b>Dade County</b> <b>Lockwood</b>	<b>26</b>	<b>1840CST</b>			<b>0</b>	<b>0</b>	<b>1K</b>		<b>Thunderstorm Wind (G65)</b>
			Amateur radio operators observed several trees and power lines downed from severe thunderstorm wind gusts.						
<b>Polk County</b> <b>Brighton</b>	<b>26</b>	<b>1847CST</b>			<b>0</b>	<b>0</b>			<b>Thunderstorm Wind (G60)</b>
<b>Lawrence County</b> <b>Miller</b>	<b>26</b>	<b>1915CST</b>			<b>0</b>	<b>0</b>			<b>Thunderstorm Wind (G60)</b>
			Several large tree limbs were downed from severe thunderstorm wind gusts.						
<b>Lawrence County</b> <b>Halltown</b>	<b>26</b>	<b>2000CST</b>			<b>0</b>	<b>0</b>	<b>0.50K</b>		<b>Thunderstorm Wind (G60)</b>
			Numerous trees and power lines were downed from thunderstorm wind gusts.						
<b>Stone County</b> <b>2 NW Galena</b>	<b>26</b>	<b>2010CST</b>			<b>0</b>	<b>0</b>			<b>Hail (0.88)</b>
<b>Taney County</b> <b>Walnut Shade</b>	<b>26</b>	<b>2015CST</b>			<b>0</b>	<b>0</b>			<b>Hail (0.75)</b>
<b>MONTANA, Central</b>									
<b>Gallatin County</b> <b>11 N West Yellowstone to</b>	<b>01</b>	<b>0000MST</b>			<b>0</b>	<b>0</b>			<b>Wildfire</b>
<b>12 N West Yellowstone</b>	<b>15</b>	<b>1200MST</b>							
			A lightning caused wildfire started north of West Yellowstone on the 20th of August. This wildfire was named the Rathbone Fire. 2000 acres burned by the end of August, and an additional 1000 acres burned in September. No structural losses or injuries were reported. Traffic was limited to the day time hours only on Highway 191 near the fire due to the thick smoke.						
<b>Gallatin County</b> <b>6 N West Yellowstone to</b>	<b>03</b>	<b>1517MST</b>			<b>0</b>	<b>0</b>	<b>3K</b>		<b>Dust Devil</b>
<b>7 N West Yellowstone</b>		<b>1518MST</b>							
			A dust devil went through the Rathbone Wildfire Base Camp on the 3rd. The dust devil was on the ground for 1 minute, it was 6 feet wide, and traveled one half mile. The dust devil struck a few camping tents and one equipment tent. A few personal items and a laptop computer were damaged. Some of this debris was blown in the air about 3000 feet.						
<b>MTZ010-048</b> <b>Eastern Glacier - Southern Rocky Mountain Front</b>	<b>11</b>	<b>0700MST</b>			<b>0</b>	<b>0</b>			<b>High Wind (G49)</b>
		<b>1700MST</b>							
			A high wind event moved through the Rocky Mountain Front on the 11th. Sustained winds averaged between 40 and 45 mph, with gusts near 55 mph.						
<b>MTZ047</b> <b>Blaine</b>	<b>13</b>	<b>1524MST</b>			<b>0</b>	<b>0</b>			<b>High Wind (G51)</b>
			A high wind gust of 59 mph occurred at Chinook 11S at 1524 MST.						

# Storm Data and Unusual Weather Phenomena

September 2003

September 2003									
Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
<b><u>MONTANA, Central</u></b>									
<b>MTZ014</b>			<b>Southern Lewis And Clark</b>						
	25	1000MST 1100MST			0	0			High Wind (G50)
A high wind gust of 58 mph occurred at McDonald Pass at 1045 MST, with sustained winds near 50 mph from 1000 to 1100 MST.									
<b><u>MONTANA, East</u></b>									
NONE REPORTED.									
<b><u>MONTANA, South</u></b>									
NOT RECEIVED.									
<b><u>MONTANA, West</u></b>									
NONE REPORTED.									
<b><u>NEBRASKA, Central</u></b>									
<b>Lincoln County</b>									
1 N Maxwell	10	1940CST 1950CST			0	0	18K		Thunderstorm Wind (G74)
A severe thunderstorm moved through Eastern Lincoln County and produced damaging winds gusts up to 74 knots. A spotter reported damage to a house, uprooted and damaged trees and a collapsed garage with the occurrence of these winds, 1 mile North of Maxwell. Numerous power poles in the vicinity were also blown down.									
<b><u>NEBRASKA, East</u></b>									
<b>Butler County</b>									
2 NE Bellwood	09	1320CST			0	0			Hail (0.88)
<b>Colfax County</b>									
4 SE Richland	09	1330CST			0	0			Hail (0.75)
<b>Cuming County</b>									
4 NW West Pt	09	1527CST			0	0			Hail (0.75)
<b>NEZ088</b>			<b>Jefferson</b>						
	11	0800CST			0	0			Flood
	12	1600CST							
Heavy rainfall fell across much of Jefferson county and adjacent counties to the west on September 10th and 11th. Radar estimates and rain gage measurements were in the 4 to 7 inch range for the 48 hour period. The heavy rain caused minor flooding in Jefferson county, especially along the Little Blue River. The Little Blue River surpassed it's 15 foot flood stage near Fairbury around 900 am on the 11th, and didn't drop below flood stage until around 500 pm on the 12th. The river crested at 17.6 feet during the afternoon hours on the 11th. However, no significant damage was reported since the river flooded mainly agricultural lowlands.									
<b>NEZ078</b>			<b>Saline</b>						
	12	0800CST			0	0			Flood
	15	0900CST							
Heavy rain fell across much of Saline county September 10th and 11th. Radar estimates and rain gage measurements were in the 4 to 7 inch range for the 48 hour period. The heavy rain caused minor flooding along Turkey Creek in Saline county. Turkey Creek near Wilber went above it's 11 foot flood stage during the morning hours on the 12th and didn't drop below flood stage until the afternoon of the 15th. The creek near Wilber crested at 14.6 feet during the afternoon of the 14th. The flooding affected mainly agricultural lowlands and no significant damage was reported.									
<b><u>NEBRASKA, Extreme Northeast</u></b>									
<b>Dixon County</b>									
6 NW Martinsburg	09	1813CST 2000CST			0	0			Flash Flood
Heavy rainfall of 3 to 5 inches caused a rapid overflow of a small creek.									
<b><u>NEBRASKA, Extreme Southwest</u></b>									
NONE REPORTED.									
<b><u>NEBRASKA, South Central</u></b>									
<b>Phelps County</b>									
13 N Funk	09	1845CST			0	0	10K	100K	Hail (1.25)



# Storm Data and Unusual Weather Phenomena

September 2003

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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## NEW HAMPSHIRE, North and Central

### **Grafton County**

**Bristol**      **04**      **0230EST**           **0**      **0**      **25K**      **Lightning**

Lightning struck a 230 yr-old maple tree that was located very near a home in Bristol. The lightning shattered windows and followed an underground cable into the home. The lightning caused extensive damage to the home's electrical system and caused a small fire. Electronic equipment in the home was also damaged.

## NEW HAMPSHIRE, Southern

NONE REPORTED.

## NEW JERSEY, Northeast

NOT RECEIVED.

## NEW JERSEY, South and Northwest

**NJZ014-024>026**      **Eastern Monmouth - Eastern Cape May - Eastern Atlantic - Eastern Ocean**  
**18**      **0600EST**           **1**      **0**      **Heavy Surf/High Surf**  
**20**      **1800EST**  
M511W

**NJZ014-016>019-021-023>027**      **Eastern Monmouth - Salem - Gloucester - Camden - Northwestern Burlington - Cumberland - Western Cape May - Eastern Cape May - Eastern Atlantic - Eastern Ocean - Southeastern Burlington**  
**18**      **1300EST**           **0**      **0**      **Storm Surge**  
**19**      **1700EST**

**NJZ001-007>010-012>013-015>020-022-027**      **Sussex - Warren - Morris - Hunterdon - Somerset - Middlesex - Western Monmouth - Mercer - Salem - Gloucester - Camden - Northwestern Burlington - Western Ocean - Western Atlantic - Southeastern Burlington**  
**18**      **1600EST**           **1**      **0**      **High Wind (G50)**  
**19**      **0500EST**  
F?VE

**NJZ014-021-023>026**      **Eastern Monmouth - Cumberland - Western Cape May - Eastern Cape May - Eastern Atlantic - Eastern Ocean**  
**18**      **1600EST**           **0**      **0**      **Tropical Storm**  
**19**      **0500EST**

Tropical Storm Isabel produced strong power outage producing winds, moderate tidal flooding along the Delaware Bay and the Delaware River and erosion and rough surf along the shore. Two deaths were directly attributed to the storm. In Warren County, a woman died when a tree landed and crushed the vehicle she was riding. In Cape May County, a 51-year-old man drowned in the rough surf off of Wildwood Crest. Isabel made landfall as a hurricane near Drum Inlet, North Carolina around 100 p.m. EDT on the 18th and weakened as it tracked farther inland. At one time in its life cycle, it was a powerful Category 5 hurricane when it was north of the Leeward Islands. Winds gusted up to 62 mph in New Jersey and downed countless numbers of trees, tree limbs and power lines. It was one of the worst power outages on record for area utilities. While tide heights along the oceanside only reached minor, wave action caused considerable beach erosion, especially in Cape May and Atlantic Counties. The tidal departures increased as southeast winds funneled the winds up Delaware Bay and River. At Reedy Point (Delaware), the tide reached 8.66 feet above mean lower low water. The storm surge was 5 feet. In Burlington, the tide reached 10.64 feet. The storm surge was 6.49 feet. The rain was not heavy as most places had less than an inch and half of rain. The heaviest rain with tropical systems often falls west of its storm track, thus the region was spared from the heavier rain.

Peak wind gusts included 63 mph in Cape May City, 62 mph in Strathmere (Cape May County), 61 mph at the Cape May Coast Guard, 55 mph in Millville (Cumberland County), 53 mph at the Atlantic City Marina, 52 mph in Keansburg (Monmouth County) and 47 mph in Sparta (Sussex County). A peak wind gust of 70 mph was also recorded at Ship John Shoal Light in Delaware Bay.

### **Gloucester County**

**National Park**      **23**      **0625EST**           **0**      **0**      **Thunderstorm Wind (G61)**

A potent line of severe thunderstorms uprooted whole trees in National Park Borough. Houses were damaged by the fallen trees.

### **Hunterdon County**

**Sergeantsville to Sand Brook**      **23**      **0650EST**      **2**      **50**      **0**      **0**      **Tornado (F1)**  
**0654EST**

An F1 tornado touched down in Hunterdon County in Delaware Township. It touched down just south of County Route 523 in Sergeantville and moved northeast and lifted near County Route 579 east of Sand Brook. One house suffered significant damage. Several houses suffered minor damage. Two barns blew off their foundation. Numerous trees were snapped or uprooted.

### **Camden County**

**Cherry Hill**      **23**      **0655EST**           **0**      **0**      **Thunderstorm Wind (G52)**

A powerful line of severe thunderstorms uprooted trees and downed wires along New Jersey State Route 38 in Cherry Hill Township.

# Storm Data and Unusual Weather Phenomena

September 2003

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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## NEW JERSEY, South and Northwest

### **Burlington County**

Countywide	23	0702EST 0825EST			0	0	1.5M		Thunderstorm Wind (G61)
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A powerful line of severe thunderstorms uprooted numerous trees and power lines throughout Burlington County. The combination of the Florence Tornado and the line of severe storms produced an estimated property damage of \$2.1 million dollars throughout the county. Most of the wind damage was caused by trees falling on homes and vehicles. Beside Florence, other hard hit areas included Cinnaminson, Edgewater Park and Willingboro Townships.

### **Burlington County**

Florence to Roebbling	23	0714EST 0718EST	1.8	120	0	0	600K		Tornado (F1)
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An F1 tornado touched down in Florence Township and uprooted about 100 trees along its path. Some of the trees fell on and damaged homes. Wind damage in the county due to the tornado and the line of severe thunderstorms was estimated at \$2.1 million dollars. The maximum wind speeds were estimated at 85 mph. The tornado remained on the ground for about 1.75 miles and lifted in the Roebbling Section of the township.

### **Mercer County**

Trenton to Slackwood	23	0715EST 0721EST	3	100	0	0			Tornado (F1)
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An F1 tornado touched down in the eastern part of Trenton around Hillcrest and traveled northeast passing through the southern part of Ewing Township and into southwestern part of Lawrence Township before it lifted around the Slackwood area. The worst wind damage and the strongest part of the tornado occurred just west of the Lawrence/Ewing Township border. A car dealership lost its roof. Numerous trees and power lines were blown down and several telephone poles were snapped. The tornado remained on the ground for about three miles and its path width was about 100 yards.

### **Mercer County**

Countywide	23	0715EST 0745EST			0	0			Thunderstorm Wind (G59)
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A powerful line of severe thunderstorms uprooted numerous trees and wires throughout Mercer County. A SKYWARN Spotter reported a measured wind gust to 68 mph in Ewing. This was not in the path of the tornado.

### **Middlesex County**

Countywide	23	0732EST 0750EST			0	0			Thunderstorm Wind (G65)
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A powerful line of severe thunderstorms produced a measured wind gust to 75 mph at the GFDL Laboratory in Plainsboro Township. The line of storms tore down whole trees in East and North Brunswick Townships.

### **Atlantic County**

Elwood	23	0757EST			0	0			Thunderstorm Wind (G52)
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A powerful line of severe thunderstorms uprooted trees and knocked down wires in Hammonton and Mullica Townships.

## NEW MEXICO, Central and North

NOT RECEIVED.

## NEW MEXICO, South Central and Southwest

### **Dona Ana County**

4 SE Las Cruces	09	1440MST			0	0			Thunderstorm Wind (G50)
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## NEW MEXICO, Southeast

### **Lea County**

Hobbs	09	2028MST			0	0	0	0	Hail (0.75)
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Scattered thunderstorms moved across the plains of southeast New Mexico during the evening of the 9th. An isolated storm became severe and resulted in large hail in the Hobbs vicinity.

## NEW YORK, Central

### **NYZ057**

### **Delaware**

02	0930EST 1200EST			0	0			Flood
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The Beaver Kill at Cooks Falls exceeded flood stage briefly cresting at 10.14 feet. Flood stage is 10 feet. This was due to a low pressure system which moved through central Pennsylvania. 2 to 4 inches of rain fell causing the rapid rise in river level.

### **Sullivan County**

North Portion	04	0100EST 0400EST			0	0	500K		Flash Flood
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1 to 3 inches of heavy rain fell in less than 6 hours. Before this rain the ground was already saturated from several inches of rain that fell on September 2nd. The towns of Delaware and Callicoon were hard hit with several roads undermined or with shoulders eroded. Many roads across northern Sullivan County had to be closed during the flooding. Most were opened after daybreak. Stewart Road in the town of Callicoon was washed out. The water created a 10 foot hole in the road.



## Storm Data and Unusual Weather Phenomena

Time Lost/ Length	Path	Path Width	Number of Persons	Estimated Damage
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September 2003									
Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed      Injured		Estimated Damage Property      Crops		Character of Storm
<b><u>NEW YORK, Central</u></b>									
<b>NYZ057</b>	<b>Delaware</b>								
	<b>04</b>	<b>0330EST</b>			<b>0</b>	<b>0</b>			<b>Flood</b>
		<b>1045EST</b>							
	A slow moving cold front brought more rain to the Beaver Kill basin. This caused the Beaver Kill at Cooks Falls to rise rapidly to a crest of 11.34 feet. Flood stage is 10 feet. The river had not fully recovered from the minor flooding of September 2nd. Most of the 1 to2 inches of rain become runoff due to the still moist ground.								
<b>NYZ057</b>	<b>Delaware</b>								
	<b>04</b>	<b>0630EST</b>			<b>0</b>	<b>0</b>			<b>Flood</b>
		<b>1244EST</b>							
	A slow moving cold front crossed the area dropping 1 to 2 inches of rain. This rain fell on grounds already saturated from 2 to 4 inches of rain that fell on September 1st to 2nd. With all of the rain, the East Branch of the Delaware River at Fishs Eddy crested at 15.70 feet. Flood stage is 15 feet. This flooding was enhanced by flooding upstream on the Beaver Kill and spilling of water at Pepacton Reservoir.								
<b>NYZ009-015&gt;018-022&gt;025-036&gt;037-044&gt;046-055&gt;057-062</b>	<b>Northern Onedia - Yates - Seneca - Southern Cayuga - Onondaga - Steuben - Schuyler - Chemung - Tompkins - Madison - Southern Oneida - Cortland - Chenango - Otsego - Tioga - Broome - Delaware - Sullivan</b>								
	<b>19</b>	<b>0500EST</b>			<b>0</b>	<b>0</b>	<b>850K</b>		<b>High Wind (G50)</b>
		<b>1800EST</b>							
	Remnants of hurricane Isabel moved up through western Pennsylvania and western New York on the 19th. It brought with it high winds. Most locations had gusts to between 40 and 50 mph, but higher elevations may have had higher gusts. Scattered reports of trees and wires down were common. Tens of thousands of electric customers were without power. A few trees and wires fell on cars and houses, and closed roads.								
<b>Yates County</b>									
<b>Penn Yan</b>	<b>22</b>	<b>1900EST</b>			<b>0</b>	<b>0</b>	<b>30K</b>		<b>Thunderstorm Wind (G50)</b>
	Thunderstorm winds blew over a popup camper and several trees in the village of Penn Yan. The camper was turned upside down.								
<b>Oneida County</b>									
<b>Rome</b>	<b>27</b>	<b>2000EST</b>			<b>0</b>	<b>0</b>	<b>10K</b>		<b>Lightning</b>
	Lightning struck the tower of the St Mary's of the Assumption church on West Liberty Street. This damaged the electric bell system in the tower.								
<b><u>NEW YORK, Coastal</u></b>									
	NOT RECEIVED.								
<b><u>NEW YORK, East</u></b>									
<b>NYZ038-047</b>	<b>Southern Herkimer - Schoharie</b>								
	<b>19</b>	<b>1426EST</b>			<b>0</b>	<b>0</b>	<b>10K</b>		<b>High Wind (G60)</b>
		<b>1430EST</b>							
	The remanents of Hurricane Isabel moved from the mid Atlantic States, northeast to western New York, during the afternoon of September 19. While eastern New York was spared the widespread damage experienced further south and west, winds from the storm did manage to blow some trees down in Schoharie and southern Herkimer Counties. A tree fell on a car on Elm Street in Cobleskill damaging it. The winds also knocked out power to about 3,000 customers in the Schoharie and eastern Mohawk Valleys.								
<b>Dutchess County</b>									
<b>Billings</b>	<b>23</b>	<b>0848EST</b>			<b>0</b>	<b>0</b>	<b>5K</b>		<b>Thunderstorm Wind (G60)</b>
<b>Ulster County</b>									
<b>New Paltz</b>	<b>23</b>	<b>0900EST</b>			<b>0</b>	<b>0</b>	<b>18K</b>		<b>Flash Flood</b>
		<b>1200EST</b>							
<b>Dutchess County</b>									
<b>La Grange</b>	<b>23</b>	<b>0905EST</b>			<b>0</b>	<b>0</b>			<b>Funnel Cloud</b>
	A strong cold front produced a line of showers and thunderstorms across eastern New York on the morning of September 23. One of the cells became severe as it moved into Dutchess County. Strong winds from the storm knocked trees and powerlines down at the intersection of Route 55 and Route 82 in the town of Billings. A funnel cloud was reported by a Law Enforcement Officer in the town of La Grange. Heavy rains resulted in flash flooding in the town of New Paltz in Ulster County. Route 32 flooded in that town submerging a taxi at the intersection of Route 32 and Sunset Ridge Road. The driver was not injured. By 4 pm, city firefighters in New Paltz had assisted in pumping 18 flooded basements out. The storms resulted in scattered power outages.								

## Storm Data and Unusual Weather Phenomena

Time Local/	Path Length	Path Width	Number of Persons	Estimated Damage
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**NEW YORK, East**

## Fishkill

28	0100EST 0102EST	1.2	75	0	0	10K	Tornado (F1)
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A cold front spawned a line of heavy showers across eastern New York during the early morning hours of September 28. A cell broke loose from the line and became a super cell that spawned a tornado of F0-F1 intensity across Fishkill, Dutchess County. The length was a little over a mile and the width varied greatly between 25 and 100 yards. Most of the damage was to trees, but some wires were blown down and a transformer blew up. Flying debris shattered a window in a home. No injuries were reported with this tornado.

## NYZ035

19      1239ES

2000EST

The remnants of Hurricane Isabel moved across western New York the afternoon of Friday, September 19th and into Canada by evening. Strong winds accompanied this system and were enhanced by the proximity of a strong high pressure system over the Canadian Maritimes. A few trees and power lines were blown down in Moriah, Westport and Lewis.

**19 1410EST**

2000EST

The remnants of Hurricane Isabel moved across western New York the afternoon of Friday, September 19th and into Canada by evening. Strong winds accompanied this system and were enhanced by the proximity of a strong high pressure system over the Canadian Maritimes. A few trees and power lines were blown down, especially in and around Chazy.

## Saranac Lake

27	2200EST	0	1	5K	Lightning
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Lightning struck a house damaging an antenna and computer. The computer operator was injured but survived.

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## Central

**NCZ007>011-025>028- Person -**

**041-043-078-088**      **Wayne - Cumberland**

18	0900EST 2100EST	1	0	7.3M	Hurricane/Typhoon
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Hurricane Isabel made landfall along the Outer Banks just north of Cape Lookout around 1 pm on September 18, 2003. The eye of the storm tracked northeast passing over eastern Halifax County. Winds gusts to near Hurricane force were recorded over Halifax county. Many locations across the Coastal Plain and even back into the Triangle received wind gusts between 50 to 70 mph late in the afternoon until early evening. Many trees were uprooted falling on vehicles and homes all across the area. One person was killed in Franklin county when their vehicle struck a downed tree. Up to 6 inches of rain fell across Edgecombe, Halifax and Wilson counties resulting in flooding of several roads. M45VE

## Roanoke Rapids

18	1438EST 1800EST	0	0	Flash Flood
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Flooded roads were impassable in Roanoke Rapids.

**Tarboro**

18	1600EST 1800EST	0	0	Flash Flood
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Town Creek flooded over highway 111 near Tarboro.

### Countywide

18	1800EST	0	0	Flash Flood
	2000EST			

Low lying areas around the county were flooded along with some roads.

## Lexington

23	0000EST	0	0	Thunderstorm Wind (G65)
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Large trees were uprooted and snapped from I-85 Exit 102 northeast across Veteran's Park. A few homes were damaged from the falling trees. Minor shingle damage occurred to a day care center, a machine shop, and a church.

### North Central Port

23	0000EST 0200EST	0	0	650K	Flash Flood
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Several creeks produced moderate to major flooding including Hamby Creek, Rich Fork Creek, and Abbotts Creek. Several roads and bridges were washed out, and 34 roads were under water. 21 homes, 4 apartments, one school, and one fire station were flooded. Areas around Lexington and Thomasville sustained the worst flooding.



# Storm Data and Unusual Weather Phenomena

September 2003

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## NORTH CAROLINA, Northwest and North Central

### **Rockingham County**

<b>Reidsville</b>	<b>04</b>	<b>1330EST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
		<b>1530EST</b>							

Thunderstorms during the afternoon of the 4th produced flash flooding and damaging winds.

Heavy thunderstorm rains during the afternoon of the 4th caused Wolf Island Creek to flood in Reidsville.

Thunderstorm winds in Eden blew the doors off the Eden Mall then blew out 17 skylights. One of the skylights broke out the window of a truck in the parking lot.

**NCZ004>006**

### **Stokes - Rockingham - Caswell**

<b>18</b>	<b>1330EST</b>			<b>0</b>	<b>0</b>	<b>300K</b>		<b>Tropical Storm</b>
	<b>2130EST</b>							

As Hurricane Isabel weakened to a tropical storm, winds were sustained during the mid afternoon and early evening at up to 45 to 55 mph with gusts near 65 mph. This produced widespread wind damage with numerous trees and power lines downed.

## NORTH CAROLINA, South Coastal

**NCZ097-100>101**

### **Pender - Brunswick - New Hanover**

<b>18</b>	<b>0800EST</b>			<b>0</b>	<b>0</b>			<b>Tropical Storm</b>
	<b>1800EST</b>							

The eye of category 3 Hurricane Isabel made landfall between Cape Lookout and Cape Hatteras NC during the afternoon. The fringe of Isabel's circulation caused offshore winds gusting near 60 mph along the beaches of Pender, New Hanover and Brunswick Counties. Damage was minimal, mainly to scattered tree limbs and some roof shingles. Beach erosion damaged a roadway on Bald Head Island, Brunswick County.

### **Pender County**

<b>Hampstead</b>	<b>22</b>	<b>1830EST</b>			<b>0</b>	<b>0</b>		<b>Thunderstorm Wind (G70)</b>
		<b>1835EST</b>						

Strong winds blew eight trees down on Lee Drive, Factory Road, and Second Street.

## NORTH CAROLINA, Southwest

### **Jackson County**

<b>9 SSE Cashiers</b>	<b>01</b>	<b>0300EST</b>			<b>0</b>	<b>0</b>		<b>Flash Flood</b>
		<b>0500EST</b>						

Thunderstorms produced about 8 inches of rain across the area from the evening of the 31st through the early morning hours of the 1st. This resulted in flash flooding along some creeks and small streams in the extreme southern part of the county. A landslide closed portions of highway 281.

### **Henderson County**

<b>Countywide</b>	<b>22</b>	<b>1600EST</b>			<b>0</b>	<b>0</b>		<b>Heavy Rain</b>
		<b>1800EST</b>						

### **Jackson County**

<b>Countywide</b>	<b>22</b>	<b>1600EST</b>			<b>0</b>	<b>0</b>		<b>Heavy Rain</b>
		<b>1800EST</b>						

### **Transylvania County**

<b>Countywide</b>	<b>22</b>	<b>1600EST</b>			<b>0</b>	<b>0</b>		<b>Heavy Rain</b>
		<b>1800EST</b>						

A large storm system produced very heavy rainfall across the southern mountains of North Carolina during the early evening, which resulted in some urban and small stream flooding across the area. More significant flooding developed in Transylvania County after 7 pm.

### **Transylvania County**

<b>Countywide</b>	<b>22</b>	<b>1800EST</b>			<b>0</b>	<b>0</b>	<b>20K</b>	<b>Flash Flood</b>
		<b>2300EST</b>						

Flooding began around Rosman in urban and poor drainage areas, after which flooding developed quickly along creeks. The French Broad River rose above flood stage at Rosman just after 7 pm, and remained in flood through 11 pm. At the height of the flooding, some vehicles were half-submerged in flood waters. Numerous mud slides also developed. Flooding developed late in the evening across other portions of the county, including along the Davidson River in Pisgah National Forest.

### **Rowan County**

<b>China Grove to</b>	<b>22</b>	<b>2200EST</b>			<b>0</b>	<b>0</b>	<b>5K</b>	<b>Flash Flood</b>
<b>Spencer</b>	<b>23</b>	<b>0100EST</b>						

Heavy rainfall resulted in flash flooding along Grant's Creek between Salisbury and Spencer. A creek near China Grove overflowed its banks and flooded a portion of highway 152. Town Creek flooded in Salisbury, causing some damage at a construction site, and resulting in several road closures.

## NORTH DAKOTA, Central and West

NONE REPORTED.

## Storm Data and Unusual Weather Phenomena

Time Local/	Path Length	Path Width	Number of Persons	Estimated Damage
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Location	Date	Standard	(Miles)	(Yards)	Killed	Injured	Property	Crops	Character of Storm
<b><u>NORTH DAKOTA, East</u></b>									
<b>Barnes County</b>									
Valley City	16	2305CST			0	0			Hail (0.75)
<b>Richland County</b>									
2 W Galchutt	17	1040CST			0	0			Hail (0.88)
<b>Grand Forks County</b>									
Grand Forks	17	1530CST			0	1			Lightning
A woman leaving work was struck by lightning as she walked to her car. She suffered no visible injuries, but was taken to the emergency room for observation. She later reported seizure-like muscle twitches.									
<b><u>OHIO, East</u></b>									
<b>Jefferson County</b>									
Bergholz	01	2243EST 2355EST			0	0	10K		Flash Flood
North Fork Creek overflowed and flooded State Route 524. Three people had to abandon their car and swim to safety. No injuries.									
<b>Carroll County</b>									
Wattsville	01	2244EST 2355EST			0	0			Flash Flood
State Route 524 flooded.									
<b>Harrison County</b>									
Bowerston to Scio	03	1630EST 1800EST			0	0			Flash Flood
State Route 151 flooded at several locations between Scio, Conotton, and Bowerston.									
<b><u>OHIO, North</u></b>									
<b>Stark County</b>									
East Sparta	26	2045EST			0	0	5K		Thunderstorm Wind (G50)
Thunderstorm winds downed several large tree limbs.									
<b>Stark County</b>									
Canton	26	2122EST			0	0			Hail (0.75)
Dime size hail was observed.									
<b>Mahoning County</b>									
North Lima	26	2125EST			0	0	5K		Thunderstorm Wind (G50)
Thunderstorm winds downed a few large tree limbs.									
<b>Summit County</b>									
Greensburg	26	2125EST			0	0			Hail (0.75)
Penny size hail was observed.									
<b>Portage County</b>									
Suffield	26	2135EST			0	0	3K		Thunderstorm Wind (G50)
Thunderstorm winds downed a couple of large tree limbs.									
<b>Hancock County</b>									
Countywide	26	2220EST			0	0	15K		Thunderstorm Wind (G50)
Thunderstorm winds downed a few trees across the county.									
<b>Wood County</b>									
West Millgrove	26	2230EST			0	0	25K		Thunderstorm Wind (G50)
Thunderstorms downed several trees southeast of West Millgrove and just to the northwest of Fostoria. A couple of homes sustained some roof damage.									
<b>Wood County</b>									
Bloomdale	26 27	2233EST 2233EST			0	0	3K		Thunderstorm Wind (G50)
Thunderstorm winds downed two trees.									
<b>Erie County</b>									
Sandusky	26	2300EST			0	0			Hail (0.75)
Penny size hail was observed.									
<b>Erie County</b>									
Vermilion	26 27	2320EST 2320EST			0	0	5K		Thunderstorm Wind (G50)
Thunderstorm winds downed a few large tree limbs.									

# Storm Data and Unusual Weather Phenomena

September 2003

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
<b><u>OHIO, North</u></b>									
<b>Marion County</b> La Rue	26	2320EST			0	0	15K		Thunderstorm Wind (G50)
									Thunderstorm winds downed three power poles near La Rue.
<b>Lorain County</b> Amherst	27	0005EST			0	0	2K		Thunderstorm Wind (G50)
									Thunderstorm winds downed two large tree limbs.
<b>Crawford County</b> Bucyrus	27	0015EST			0	0	15K		Thunderstorm Wind (G50)
									Thunderstorm winds downed several trees in the Bucyrus area.
<b>Richland County</b> Mansfield	27	0015EST			0	0	3K		Thunderstorm Wind (G50)
									Thunderstorm winds downed a few large tree limbs.
<b>Morrow County</b> Mt Gilead	27	0030EST			0	0	2K		Thunderstorm Wind (G50)
									Thunderstorm winds downed two large tree limbs north of Mount Gilead.
<b>Cuyahoga County</b> Shaker Hgts	27	0040EST			0	0	8K		Thunderstorm Wind (G50)
									Thunderstorm winds downed several large tree limbs.
<b>Portage County</b> Hiram	27	0100EST			0	0	3K		Thunderstorm Wind (G50)
									Thunderstorm winds downed a couple of large tree limbs.
<b>Wayne County</b> Creston	27	0100EST			0	0			Hail (0.75)
									Penny size hail was observed.
<b>Geauga County</b> Chardon	27	0130EST			0	0	6K		Thunderstorm Wind (G50)
									Thunderstorm winds downed three trees.
<b>Ashtabula County</b> Geneva	27	0155EST			0	0	4K		Thunderstorm Wind (G50)
									Thunderstorm winds downed two large trees.
<b>Trumbull County</b> North Bloomfield	27	0210EST			0	0	3K		Thunderstorm Wind (G50)
									Thunderstorm winds downed a couple of large tree limbs.
<b>Knox County</b> Mt Vernon	27	0215EST			0	0	2K		Thunderstorm Wind (G50)
									Thunderstorm winds downed one tree and one large limb.
<b><u>OHIO, Northwest</u></b>									
NONE REPORTED.									
<b><u>OHIO, Southeast</u></b>									
<b>OHZ086</b> Gallia	02	0200EST 1300EST			0	0	20K		Flood
									South a a strong frontal zone, rains of 2 to 4 inches fell in a 24 hour period from midday on the 1st through midday on the 2nd. The heaviest rain amounts ran west to east, across Gallia County, from near the community of Gallia to the Ohio River around Gallipolis. The cooperative observer at Gallipolis measured 3.8 inches of rain. At the end of the event, small streams overflowed and blocked several county roads.

## Storm Data and Unusual Weather Phenomena

Time Local/	Path Length	Path Width	Number of Persons	Estimated Damage
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**OHIO, Southwest**  
**OHZ034>035-042-042-**  
**042-046-051-051-055-**  
**062-077**

**Mercer - Auglaize - Darke - Delaware - Miami - Franklin - Greene - Hamilton**

01	1349EST 2000EST	0	0	37K	Flood
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Heavy rain fell across much of west central and central Ohio throughout the afternoon and evening. Most areas along and north of Interstate 70 received one inch, with some locations northwest of Dayton seeing two to three inches of rain. The heavy rains resulted in flooding of numerous roads, several creeks rose out of their banks, and basements were flooded in Miami, Darke and Franklin counties. Up to fifteen homes were flooded and had minor damage in Darke County.

**Miami County  
Brandt**

01	1430EST	0	0	3K	Thunderstorm Wind (G50)
	1434EST				

Numerous trees were downed.

**Darke County**  
**1 S Versailles**

01	1440EST	0	0	3K	Thunderstorm Wind (G50)
	1444EST				

Trees were downed along Jamison Road.

**Miami County**  
**Piqua**

01	1445EST	0	0	8K	Thunderstorm Wind (G50)
	1449EST				

Several trees downed on homes along Washington Road, causing minor damage.

**Delaware County**  
**Delaware**

01	1600EST	0	0	3K	Thunderstorm Wind (G50)
	1604EST				

A few trees and a power pole were downed.

**OHZ062-070>071-  
071>072**

<b>02</b>	<b>1430EST</b>	<b>0</b>	<b>0</b>	<b>10K</b>	<b>Flood</b>
	<b>2000EST</b>				

Persistent heavy rain produced an additional one to two inches across southwest Ohio during the afternoon. The heavy rain caused flooding of roads and several creeks rose out of their banks. A school bus was stranded in high water near Mason. Kings Mills Road in Mason collapsed in a construction area when the heavy rains washed out a culvert. Twenty-five people were evacuated from the Royal Oaks Apartments in Fairfield due to high water.

**OHZ063**

03	0930EST	0	0	Flood
	1100EST			

Heavy rain produced one to two inches in the Washington Court House area during the morning. Several roads were flooded, with one car stranded in three feet of water.

**Miami County  
Countywide**

26	1930EST	0	0	5K	Thunderstorm Wind (G50)
	1945EST				

Trees were downed.

**Darke County**  
**1 NW New W**

26	2200EST 2205EST	0.8	50	0	0	100K	Tornado (F1)
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A brief tornado touched down across the extreme northern part of the county. One barn was destroyed, and another barn had its roof blown off. Two nearby silos sustained some damage. In total, nine farm buildings sustained damage from the tornado. Two nearby houses had minor structural damage. Winds were estimated to be near 80 mph.

**Shelby County  
Port Jefferson to  
Maplewood**

26	2235EST	0	0	150K	Thunderstorm Wind (G90)
	2245EST				

A strong microburst caused damage to homes across the eastern part of the county. One house was blown off of its foundation, and several others sustained major damage. Numerous trees were downed across the area. Maximum wind speeds were estimated between 100 and 120 mph.

## Logan County Lakeview to Lewistown

26	2250EST 2300EST	0	0	50K	Thunderstorm Wind (G70)
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Several silos on a farm were heavily damaged by the strong winds. An airplane was overturned at a nearby airfield. Fences were blown over and damaged at Indian Lake High School. Numerous trees were downed, including one that fell on a house, causing minor damage. A mobile home was also destroyed.

# Storm Data and Unusual Weather Phenomena

September 2003

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## OHIO, Southwest

### Warren County

Mason to South Lebanon	27	0040EST 0050EST			0	0	4M		Thunderstorm Wind (G78)
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An intense microburst caused extensive damage to homes and businesses across the southern part of the county. Several buildings sustained major damage along Mason-Montgomery Road. Up to fifty windows were blown out at Kings Junior High School. Portions of the roof were damaged and a wall was blown in at the junior high school as well. Numerous buses near the junior high school were severely damaged by flying debris and a nearby shed was destroyed. The fifty foot marquee at Kings Island Amusement Park was blown down and completely destroyed. 36 homes suffered roof damage in Kings Mills. In South Lebanon, a small church and 75 homes sustained damage, including five that were severely damaged. Fifteen vehicles were struck by fallen trees. Trees and power poles were downed in a widespread area. Maximum wind speeds were estimated between 80 and 100 mph.

### OHZ046-055

#### Delaware - Franklin

	27	0200EST 0245EST			0	0			Flood
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Heavy rain caused minor flooding of roads across northern portions of the Columbus metro area north into Delaware County.

## OKLAHOMA, Eastern

### Nowata County

1 NE Wann	26	1820CST			0	0	5K		Thunderstorm Wind (G61)
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Thunderstorm winds estimated at 70 miles an hour blew down trees and power poles.

### Craig County

11 SE Vinita	26	1930CST			0	0			Thunderstorm Wind (G61)
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Thunderstorm winds estimated at 70 miles an hour blew trees down two miles west of Ketchum.

## OKLAHOMA, Extreme Southeast

NONE REPORTED.

## OKLAHOMA, Panhandle

### Texas County

Eva	09	1729CST			0	0			Hail (1.00)
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### Texas County

6 N Texhoma	09	1730CST			0	0			Hail (0.75)
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### Texas County

2 S Eva	09	1740CST			0	0			Hail (1.00)
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Severe thunderstorms moved across the central Oklahoma panhandle during the early evening hours producing large hail.

### Texas County

3 NW Tyrone	20	1726CST			0	0			Hail (1.50)
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### Texas County

11 E Guymon	20	1830CST			0	0			Hail (1.00)
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### Beaver County

5 S Turpin	20	1848CST			0	0			Hail (0.88)
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### Beaver County

Balko	20	1903CST			0	0			Hail (1.00)
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### Beaver County

Balko	20	1945CST			0	0			Hail (1.00)
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Severe thunderstorms producing large hail moved across the central and eastern sections of the Oklahoma panhandle during the early evening hours.

## OKLAHOMA, Western, Central and Southeast

### Beckham County

Erick	10	1930CST			0	0			Thunderstorm Wind (G52)
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### Beckham County

4 ESE Erick	10	2235CST			0	0			Thunderstorm Wind (G50)
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Wind was measured by the Oklahoma mesonet.

### Beckham County

3 W Carter	10	2325CST			0	0			Hail (1.50)
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# Storm Data and Unusual Weather Phenomena

September 2003

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## **OKLAHOMA, Western, Central and Southeast**

### **Beckham County**

**3 W Carter**      **10**      **2325CST**           **0**      **0**           **Thunderstorm Wind (G52)**

### **Harmon County**

**4 N Madge**      **10**      **2354CST**           **0**      **0**      **5K**      **Thunderstorm Wind (G56)**

A barn was damaged. Four inch tree limbs were also downed.

### **Beckham County**

**Erick**      **11**      **0000CST**  
**0630CST**           **0**      **0**      **50K**      **Flash Flood**

Four to nine inches of rain fell in Beckham county causing many flooding problems. Water went into some businesses in Erick. The baseball field was flooded and fences at the field were downed by moving water. Standing water was at least four feet deep in some areas. An elderly man had to be evacuated from his vehicle which was stalled due to high water.

### **Beckham County**

**1 N Erick**      **11**      **0000CST**  
**0600CST**           **0**      **0**           **Flash Flood**

Four semi tractor trailer vehicles hydroplaned into the Interstate 40 median. Two trucks went off the road at 0100 CDT with the other two trucks going into the median at approximately 0450 CDT. Wrecker trucks had difficulty getting to the vehicles due to water running across Interstate 40.

### **Jackson County**

**5 NW Duke**      **11**      **0025CST**           **0**      **0**      **1K**      **Thunderstorm Wind (G52)**

Several tree limbs up to eight inches in diameter were downed.

### **OKZ021-033>034**

#### **Beckham - Harmon - Greer**

**11**      **0200CST**           **0**      **0**           **Flood**  
**12**      **0500CST**

The river most affected by the heavy rains was the Elm Fork of the North Fork Red River in Greer, Harmon, and Beckham counties. Moderate flood levels were reached at two river gage sites. At the USGS river gage site near Vinson in Harmon County, a crest of 13.45 feet occurred on the Elm Fork during the early morning hours of September 11, which was 4.45 feet above flood stage. The moderate flooding conditions eventually moved downstream past the river gage site 3 miles north of Mangum on the U.S. Highway 283 Bridge. At this location, the Elm Fork crested during the early morning hours of September 12 at a stage of 24.15 feet, which was 3.15 feet above flood stage.

The floodwaters inundated low-lying fields and some roads along the river, and a blacktop road was closed by high water 4 miles north of Reed in the Jaybuckle area. One residence in the Jaybuckle area was threatened briefly during the late morning of September 11, as floodwaters crept within inches of the house. Residents in the area reported that Elm Fork had reached its highest levels since the catastrophic floods of June 1995.

### **Beckham County**

**Sayre**      **11**      **0330CST**  
**0600CST**           **0**      **0**           **Flash Flood**

Sayre City Park was flooded.

### **Mcclain County**

**Blanchard**      **11**      **0400CST**  
**0600CST**           **0**      **0**           **Flash Flood**

Heavy rainfall totals of 3 to 5 inches during the early morning of September 11 generated flash flooding in the Blanchard area. A waterway that runs through part of town overflowed flooding yards and nearly entering some nearby homes. Water was seen reaching the top of the foundations of two homes. The flood waters left behind trash and other flood debris.

Precipitation totals of 5 to 9+ inches fell during the late evening hours of September 10 and early morning hours of September 11 over parts of west central and southwestern Oklahoma and the eastern Texas Panhandle. The subsequent heavy runoff from these torrential rains initially produced flash flooding in this area, especially in and near the city of Erick, where the cooperative observer reported a storm total of 8.61 inches, and an unofficial total of 9.45 inches was measured.

The runoff from these heavy rains eventually moved from small creeks and tributaries into the three main rivers in the region, and produced either flooding or bankfull conditions along these rivers. The river most affected was the Elm Fork of the North Fork Red River in Greer, Harmon, and Beckham counties. Moderate flood levels were reached at two river gage sites.

Heavy rainfall amounts of 4 to 5+ inches near Sayre also produced minor flooding along the North Fork of the Red River, as floodwaters overflowed its banks on September 11, briefly covering parts of Sayre City Park and a golf course, and leaving behind trash and other flood debris. Bankfull conditions were also observed farther downstream on the North Fork as the high water traveled through eastern Beckham County, and along the Greer-Kiowa county line to the headwaters of Altus-Lugert Lake.

Bankfull conditions also occurred along the Salt Fork of the Red River in southwestern Oklahoma. Three crests within a foot of flood stage were observed at the USGS river gage site on the Oklahoma Highway 34 Bridge at the city of Mangum on September 11.

# Storm Data and Unusual Weather Phenomena

September 2003

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## OREGON, Central and East

### Jefferson County

4 W Camp Sherman 01 0000PST 0 0 Wildfire  
17 2359PST

The Booth and Bear Butte Fires began on August 19th and burned a total of 91,000 acres. The cause of the fire was determined to be prior lightning strikes which created hot spots that later flared up into a wildfire. Dry conditions and occasionally higher winds contributed to the growth of the fire. Hundreds of residents were evacuated from Camp Sherman. More than 2,000 personnel were involved in the Booth and Bear Butte Fires. The cost of fighting the fire totaled more than 32 million dollars.

### Grant County

9 NE Prairie City 05 1400PST 0 0 Wildfire  
12 2359PST

The Bull Springs 2 Fire was a lightning sparked fire which burned 1,266 acres. The estimated cost of containing the blaze was \$1,422,000.

## OREGON, Northwest

### Hood River County

Cascade Locks 02 0600PST 0 0 Wildfire  
03 1800PST

The Herman Creek Fire burned 470 acres in and around Cascade Locks. Three structures (none inhabited) burned. About 200 homes were evacuated. No injuries were reported.

## OREGON, Southeast

NONE REPORTED.

## OREGON, Southwest

### Coos County

Countywide 03 1200PST 0 0 Lightning  
2045PST  
See below.

### Curry County

Countywide 03 1200PST 0 0 Lightning  
2045PST  
See below.

### Douglas County

Countywide 03 1200PST 0 0 Lightning  
2045PST  
See below.

### Jackson County

Countywide 03 1200PST 0 0 Lightning  
2045PST  
See below.

### Josephine County

Countywide 03 1200PST 0 0 Lightning  
2045PST  
See below.

### Klamath County

Countywide 03 1200PST 0 0 Lightning  
2045PST  
See below.

### Lake County

Countywide 03 1200PST 0 0 Lightning  
2045PST  
See below.

A Red Flag Warning was issued for all of southern Oregon due to a line of thunderstorms approaching from the south containing dry lightning. The line weakened before arrival, but a number of strikes did occur over southern Oregon, just not enough to verify the Red Flag Warning.

### Josephine County

Takilma 05 0550PST 0 0 Flash Flood  
0745PST  
See below.

A Flash Flood Warning, effective at the above listed times, was issued for extreme southern Josephine county in southwest Oregon. The warning was based on radar precipitation estimates over an area of favored thunderstorm development. However, it appears that the radar estimates were overdone. Surveys of the RAWS in the area indicated little rainfall accumulation. A few hours after the warning expired, an NWS employee was sent to survey the area. He reported no flood damage or evidence of high waterflow on the creeks, but a person on the edge of the area of heavy rainfall received 1.6 inches of rain overnight. Therefore it appears that 2-3 inches of rain may have fallen in the area that got the most rainfall. However, it appears that the rain rate was low enough to allow most of it to soak into the ground. The NWS employee reported many fire starts as well, indicating that most of the area around the favored area remained relatively dry.

## Storm Data and Unusual Weather Phenomena

Time Local/	Path Length	Path Width	Number of Persons	Estimated Damage
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Location	Date	Standard	(Miles)	(Yards)	Killed	Injured	Property	Crops	Character of Storm
<b><u>OREGON, Southwest</u></b>									
<b>Coos County</b>									
Countywide	12	0632PST			0	0			Wildfire
	14	1105PST							
	See below.								
<b>Curry County</b>									
Countywide	12	0632PST			0	0			Wildfire
	14	1105PST							
	See below.								
<b>Josephine County</b>									
Countywide	12	0632PST			0	0			Wildfire
	14	1105PST							
	See below.								
	A Red Flag Warning was issued effective at the above times for fire weather zones 618/619, which includes nearly all of Curry county, a small part of southern Coos county, and a small part of western Josephine county. Strong offshore winds were expected. The strong winds occurred on the first night...but relative humidity recoveries were high enough not to verify the warning. The second night the winds abated but the recoveries were poor. Only the Red Mound RAWS in zone 619 verified the warning on that night.								
	However, this was a strong offshore event and a critical fire weather pattern, so the warning was justified as far as the fire weather agencies were concerned.								
<b>ORZ029&gt;031</b>	<b>Klamath Basin - Northern &amp; Eastern Klamath County &amp; Western Lake County - Central &amp; Eastern Lake County</b>								
	15	1452PST			0	0			Frost/Freeze
	16	0800PST							
	See below.								
	A Frost Warning was issued for the night of 09/15-16 for the above zones. Reported lows ranged from 27 to 50 degrees...so frost likely developed in sheltered areas.								
<b>ORZ029&gt;031</b>	<b>Klamath Basin - Northern &amp; Eastern Klamath County &amp; Western Lake County - Central &amp; Eastern Lake County</b>								
	16	0300PST			0	0			Frost/Freeze
	17	0800PST							
	See below.								
	A Frost Warning was issued for the night of 09/16-17 for the above zones. Reported lows ranged from 24 to 35 degrees except for one exceptional warm low of 47 degrees...so frost likely developed this night...a killing frost in many areas								
<b>ORZ029&gt;031</b>	<b>Klamath Basin - Northern &amp; Eastern Klamath County &amp; Western Lake County - Central &amp; Eastern Lake County</b>								
	17	1445PST			0	0			Frost/Freeze
	18	0800PST							
	See below.								
	A Frost Warning was issued for the night of 09/17-18 for the above zones. Reported lows ranged from 24 to 33 degrees except for one exceptionally warm low of 47 degrees...so frost likely developed this night...a killing frost in many areas.								
<b>Coos County</b>									
Countywide	21	0635PST			0	0			Wildfire
	23	0610PST							
	See below.								
<b>Curry County</b>									
Countywide	21	0635PST			0	0			Wildfire
	23	0610PST							
	See below.								
<b>Josephine County</b>									
Countywide	21	0635PST			0	0			Wildfire
	23	0610PST							
	See below.								
	A Red Flag Warning effective at the above listed time was issued for an offshore wind event with poor overnight RH recoveries for Fire Weather zones 618/619/Western 620. This warning included nearly all of Curry and Josephine counties, as well as a small portion of southern Coos county.								
	This warning verified well at the Red Mound RAWS (zone 618), nearly verified at Quail Prairie (zone 619, but did not verify at the Onion Mountain RAWS (zone 620). However, it was a significant offshore event and the warning was justified.								
<b>Curry County</b>									
Countywide	25	0710PST			0	0			Wildfire
	26	0730PST							
	See below.								
	A Red Flag Warning was issued effective at the above times for fire weather zone 618, which covers the Curry county coast. This warning was for an expected offshore wind event with poor RH recoveries. None of the RAWS stations in the area verified the warning, but Red Mound came close, just barely missing the windspeed criteria but easily verifying the RH criteria.								

# Storm Data and Unusual Weather Phenomena

September 2003

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## OREGON, Southwest

### **Douglas County**

#### **Countywide**

26 1030PST

27 1300PST

See below.

0

0

**Wildfire**

### **Jackson County**

#### **Countywide**

26 1030PST

27 1300PST

See below.

0

0

**Wildfire**

### **Josephine County**

#### **Countywide**

26 1030PST

27 1300PST

See below.

0

0

**Wildfire**

### **Klamath County**

#### **Countywide**

26 1030PST

27 1300PST

See below.

0

0

**Wildfire**

A Red Flag Warning, effective at the above times, was issued for the ridges of Fire Weather zones 620/621/623. This included all ridges in Josephine county, the western, southern, and eastern edges of Jackson county, far western Klamath county, and a very small portion of southeast Douglas county. Very dry conditions were expected with significant winds.

The Squaw Peak RAWS came closest to verifying the warning, but didn't quite make it. No other RAWS in the area approached warning criteria.

## PACIFIC

NOT RECEIVED.

## PACIFIC OCEAN

### **Pt St George Ca To Cp**

### **Blanco Or Wwd 20 To**

### **60Nm**

#### **Brookings**

03

1203PST

1259PST

0

0

**Marine Tstm Wind**

See below.

Based on radar reports, a Special Marine Warning was issued for PZZ376 effective at the above times for a line of thunderstorms active in this zone. After the warning was issued, a report from the Coast Guard relayed by WFO EKA indicated that a vessel was in distress in the area. The next day, the Coast Guard at North Bend was contacted directly. They indicated that several boats were in distress near that time due to a sudden rise in winds and seas (3-4 feet building to 8-10 feet). These events occurred near the coast in the Brookings area. This was at least 20 miles away from the thunderstorms, but it appears that a wind shift boundary did move through the entire coastal waters and the thunderstorms offshore were associated with this boundary. Ultimately, no deaths or injuries occurred, but there were serious problems associated with the event.

### **Cascade Head Or To**

### **Cp Shoalwater Wa**

### **Wwd 20Nm**

#### **Clatsop Spit**

16

0913PST

0

0

**Waterspout**

Waterspout was reported 3 miles West of Seaside.

## PENNSYLVANIA, Central

### **Franklin County**

#### **Waynesboro**

01

2100EST

2215EST

0

0

**Flash Flood**

Heavy rain caused rapid flooding across Franklin County, especially near the Waynesboro area. Route 997 at Anthony Highway, Nunnery Road, Wayne Road, Route 16 and Prices Church Road were all closed.

### **Lancaster County**

#### **Strasburg**

15

1031EST

1900EST

0

0

**Flash Flood**

### **PAZ066**

#### **Lancaster**

15

1900EST

2100EST

0

0

**Flood**

Heavy rainfall caused flooding across eastern portions of Lancaster County. Earlier rainfall left area streams and creeks above bankfull. Flooding continued along Pequea Creek near Paradise where stages reached 16 feet, well above the 12 foot flood level. A trailer park was evacuated. Flood waters slowly subsided and the creek was back within its banks by 21:00 EST.

# Storm Data and Unusual Weather Phenomena

September 2003

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## **PENNSYLVANIA, Central**

**PAZ005>006-019-024>028-033>037-042-045>046-049>053-056>059-063>066** **McKean - Potter - Southern Centre - Cambria - Blair - Huntingdon - Mifflin - Juniata - Somerset - Bedford - Fulton - Franklin - Tioga - Sullivan - Southern Clinton - Southern Lycoming - Union - Snyder - Montour - Northumberland - Columbia - Perry - Dauphin - Schuylkill - Lebanon - Cumberland - Adams - York - Lancaster**  
**18 1700EST 0 0 Tropical Storm**  
**19 0700EST**

Hurricane Isabel came ashore around midday on September 18th between Cape Hatteras and Cape Lookout, North Carolina. The storm continued on a northwesterly track up through Virginia where it was downgraded to a Tropical Storm, and by early Friday morning, September 19th, it was near Latrobe, PA and heading northwest at about 30 miles per hour. The storm exited Pennsylvania by early afternoon, the 19th, with improving conditions beginning state-wide.

Rain from the outer bands of Isabel reached southeastern areas of PA by about midday on Thursday, September 18th, and continued to spread northwestward across the remainder of the state throughout the day and evening hours. Heavy rain was falling in southern portions of the State College county warning area (CWA) by late afternoon. Gusty winds were also developing over these southern areas as well.

Rain and wind continued overnight, affecting most of State College's CWA into Friday morning. Rainfall amounts exceeded 3 inches in far southwestern areas, with much of the central CWA seeing in excess of 1 inch of rain. Far north and northeastern areas saw less than an inch on average.

Sustained winds of 30 mph on average accompanied Isabel as it tracked northward, but damaging gusts of between 50 and 60 mph occurred over a wide area. After a summer of above-normal rainfall, creating soft soils and with trees still in full bloom, the gusty winds resulted in hundreds of reports of trees or tree limbs being knocked down. These took down utility poles and power lines in many parts of the CWA, causing numerous power outages as well as property damage. Significant tree and power line damage was reported in 29 of State College's CWA counties, with the most significant damage over the lower Susquehanna region. Statewide, 1.4 million people lost power. The peak wind gust recorded was 73 mph in Lancaster County. One death (Lancaster County) was attributed to the storm, when a car struck a downed tree.

### **Snyder County Middleburg**

**23 0130EST 0 0 Flash Flood**  
**1030EST**

Heavy rain caused flooding along Middle Creek, Mahantango Creek and Penns Creek. Flooding was extensive throughout 4 townships in Snyder county, closing roads and flooding 4 homes.

### **Adams County Gettysburg**

**23 0135EST 0 0 Flash Flood**  
**0815EST**

Heavy rain caused Flash Flooding throughout Adams county. Significant flooding began around 1:30 AM EST, with numerous road closures reported throughout the county. One water rescue was performed. Dover Trailer Park was evacuated due to high water.

### **York County York**

**23 0245EST 0 0 Flash Flood**  
**0807EST**

Heavy rain caused Flash Flooding in Penn and Spring Garden Townships, in the towns of York and Hanover. Several Roads were closed by the rapidly rising water, including Route 182. Flooding occurred on the south branch of Codorus Creek.

### **PAZ049>050**

**Union - Snyder**  
**23 0315EST 0 0 Flood**  
**0830EST**

Heavy rainfall caused Penns Creek to exceed its flood stage of 8.0 feet. The creek exceeded flood state at 3:15 EST on Tuesday, September 23rd, crested at 8.4 feet at 5:15 EST, then fell back below flood stage at 8:30 EST on the 23rd.

### **Lancaster County Lancaster**

**23 0429EST 0 0 Flash Flood**  
**0807EST**

Heavy rain caused Flash Flooding throughout Lancaster County. Numerous roads were closed due to rapidly rising water. At least 10 water rescues were performed throughout the morning of the 23rd.

### **PAZ050**

**Snyder**  
**23 0430EST 0 0 Flood**  
**1030EST**

Heavy rainfall caused flash flooding across much of Snyder County shortly after midnight on the night of the 23rd. Although flash flooding ended, high water and flooding continued along Middle Creek and Mahantango Creek in the western portions of the county through mid-morning. Numerous reports of road closures and basement flooding were received.

## Storm Data and Unusual Weather Phenomena

Time Local/	Path Length	Path Width	Number of Persons	Estimated Damage
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September 2003									
Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed    Injured		Estimated Damage Property    Crops	Character of Storm	
<b>PENNSYLVANIA, Central</b>									
<b>Dauphin County</b>									
Harrisburg	23	0455EST 0807EST			0	0		Flash Flood	
Heavy rain caused flooding in Harrisburg, Halifax and Elizabethtown. Two water rescues were performed. A spotter at Dehart Dam in northern Dauphin County reported 4.80 inches of rain overnight.									
<b>PAZ063-065</b>									
	23	0545EST 1530EST			0	0		Flood	
Heavy rainfall caused Yellow Breeches Creek at Camp Hill to exceed its flood stage of 7.0 feet. The creek exceeded flood stage at 5:45 EST on Tuesday, September 23rd, crested at 8.4 feet at 12:45 EST, then fell back below flood stage at 15:30 EST on the 23rd.									
<b>PAZ057</b>									
	23	0807EST 1300EST			0	0		Flood	
Heavy rainfall caused flash flooding across much of Dauphin County shortly after midnight on the night of the 23rd. Although flash flooding ended, high water and flooding continued into the early afternoon. Road closures, due to high water, also persisted along with the closure of the Dehart Dam Bridge, about 3 miles east of the Route 325/225 interchange. Clarks Creek also continued to overflow its banks into the early afternoon.									
<b>PAZ065</b>									
	23	0807EST 1300EST			0	0		Flood	
Heavy rainfall caused flash flooding across much of York County shortly after midnight on the night of the 23rd. Although flash flooding ended, high water and flooding continued into the early afternoon. Road closures, due to high water, also persisted. Flooding was occurring upstream from Indian Rock Dam in Manchester Township. Dam operators closed flood gates to prevent flooding downstream from the dam in the city of York, but water backed up along Codorus Creek in Manchester Township from these actions, closing roads due to the rising pool level behind the dam.									
<b>PAZ066</b>									
	23	0807EST 1300EST			0	0		Flood	
Heavy rainfall caused flash flooding across much of Lancaster County shortly after midnight on the night of the 23rd. Although flash flooding ended, high water and flooding continued into the early afternoon. Road closures, due to high water, also persisted, including portions of Route 772 and Route 322. Four additional water rescues were performed as people drove around barricades.									
<b>PAZ066</b>									
	23	1545EST			0	0		Flood	
	24	0000EST							
Heavy rainfall caused the Conestoga River at Lancaster to exceed its flood stage of 11.0 feet. The creek exceeded flood stage at 15:45 EST on Tuesday, September 23rd, crested at 12.6 feet at 19:30 EST, then fell back below flood stage at 00:00 EST on the 24th.									
<b>Bedford County</b>									
Breezewood	27	1500EST			0	0		Thunderstorm Wind (G50)	
Trees and wires down in Breezewood.									
<b>Bedford County</b>									
5 S Centerville	27	1630EST 1945EST			0	0		Flash Flood	
Heavy rainfall caused flooding over portions of Bedford county. The most extensive flooding occurred about 5 miles south of Centerville, where 3 to 4 feet of water was reported on Route 220. One family was trapped in their home off of Business Route 220 due to rapidly rising flood waters. Flooded roads included Belden Road, Route 326, Route 869 in New Enterprise, and Evitts Creek Road, which was closed due to a mudslide.									
<b>Blair County</b>									
Lakemont	27	1700EST 2100EST			0	0		Flash Flood	
Heavy rainfall caused significant flooding across Blair County. Extremely hard hit was the community of Lakemont, where portions of the community were reported as being "underwater" by 911 dispatchers. Although rain ended before 8 pm, significant flooding including closed and impassable roads continued through 10 pm.									
<b>Centre County</b>									
Julian	27	1820EST 2045EST			0	0		Flash Flood	
Heavy rains caused flooding in Centre County. Road flooding was reported throughout the county. Hard hit were the intersections of Routes 220 and 550 in Stormstown, and portions of Julian Pike which were washed away by flood waters.									

# Storm Data and Unusual Weather Phenomena

September 2003

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## **PENNSYLVANIA, Central**

### **Huntingdon County**

<b>Spruce Creek</b>	<b>27</b>	<b>1820EST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
		<b>2045EST</b>							

Heavy rain caused flooding across much of Huntingdon county. Roads were flooded in the communities of Robertsedale, Alexandria and Spruce Creek.

## **PENNSYLVANIA, East**

### **Chester County**

<b>Countywide</b>	<b>15</b>	<b>0537EST</b>			<b>0</b>	<b>0</b>	<b>3.4M</b>		<b>Flash Flood</b>
	<b>16</b>	<b>0447EST</b>							

Remnant moisture from Tropical Storm Henri produced copious amounts of rain during the early morning of the 15th across Chester County. The heaviest rain fell from Downingtown south through Kenneth Square. Thunderstorms with torrential downpours moved from south to north across the same areas and produced five to ten inches of rain across the region. The worst flood damage occurred in Downingtown and Kenneth Square. Numerous people were rescued from trapped vehicles and homes. The Red Clay Creek in Kenneth Square had a record crest of 14.99 feet at 9 a.m. EDT on the 15th. The East Branch of the Brandywine Creek in Downingtown had its second highest crest on record at 13.56 feet at 1130 a.m. EDT on the 15th. Flood Stage is 7 feet. Farther downstream, the Brandywine Creek at Chadds Ford had its sixth highest crest on record at 13.72 feet at 557 p.m. EDT on the 15th. Flood stage is 9 feet. The French Creek in Phoenixville had its 4th highest crest on record at 9.70 feet at 1215 p.m. EDT on the 15th. Flood stage is 8 feet. The Valley Creek at Valley Forge had its 4th highest crest on record at 8.94 feet at 530 p.m. EDT on the 15th. Flood stage is 7 feet. The West Branch of the Brandywine Creek at Honey Brook was briefly above its 7 foot flood stage from 619 p.m. through 703 p.m. EDT on the 15th. It crested at 7.03 feet at 630 p.m. EDT. Storm totals included 8.75 inches in Downingtown, 6.57 inches in East Caln Township, 4.43 inches in Modena, 4.12 inches in Thorndale, 3.87 inches in Chadds Ford, 3.59 inches in West Chester and 3.50 inches in Glenmoore.

### **Montgomery County**

<b>Northwest Portion</b>	<b>15</b>	<b>0644EST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
		<b>0933EST</b>							

### **Montgomery County**

<b>North Portion</b>	<b>15</b>	<b>1416EST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
		<b>2319EST</b>							

Remnant moisture from Tropical Storm Henri produced copious amounts of rain during the morning and again during the laet afternoon and early evening across northern sections of Montgomery County. The heaviest rain fell across Douglass Township, Lower Pottsgrove Township, Upper Pottsgrove Township, West Pottsgrove Township and Pottstown. Doppler Radar storm total estimates reached between 6 and 8 inches. Thunderstorms with torrential downpours moved from south to north across the same areas during the morning and another band of heavy rain moved through during the afternoon. There was widespread poor drainage flooding as well as flooding of creeks and streams. The Manatawny Creek in Pottstown flooded twice on the 15th. It was above its 6 foot flood stage from 744 a.m. through 1033 a.m. EDT on the morning of the 15th. It crested at 7.03 feet at 845 a.m. EDT. It was again above flood stage from 316 p.m. through 657 p.m. EDT. It crested at 6.73 feet at 515 p.m. EDT. The Perkiomen Creek at Graterford was above its 11 foot flood stage from 516 p.m. EDT on the 15th through 1219 a.m. EDT on the 16th. It crested at 12.43 feet at 745 p.m. EDT on the 15th. Flood stage is 11 feet. Farther upstream, the West Branch of the Perkiomen Creek at Hillegass was briefly above its 5 foot flood stage from 354 p.m. through 437 p.m. EDT on the 15th. It crested at 5.02 feet at 4 p.m. EDT. Storm totals included 6.02 inches in Pottstown, 5.06 inches at the Pottstown Airport and 4.70 inches in Palm.

### **Berks County**

<b>East Portion</b>	<b>15</b>	<b>0730EST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
		<b>2119EST</b>							

Remnant moisture from Tropical Storm Henri produced copious amounts of rain during the morning of the 15th across eastern sections of Berks County. The heaviest rain fell from Douglass Township northeast through Washington Township. Doppler Radar storm total estimates reached between 6 and 8 inches. Thunderstorms with torrential downpours moved from south to north across the same areas during the morning. There was widespread poor drainage flooding as well as flooding of creeks and streams. The Manatawny Creek in Spangville was above its 6 foot flood stage from 522 p.m. through 1019 p.m. EDT on the 15th. It crested at 6.48 at 830 p.m. EDT. Storm totals included 5.23 inches in Bechtelsville, 2.80 inches in Morgantown and 2.70 inches in Hamburg.

### **Delaware County**

<b>Countywide</b>	<b>15</b>	<b>0929EST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
	<b>16</b>	<b>0447EST</b>							

Remnant moisture from Tropical Storm Henri produced copious amounts of rain during the morning and again during the late afternoon across Chester County and far northwestern Delaware County. Runoff from the upstream heavy rain caused significant flooding along the Brandywine Creek and minor flooding along Chester and Crum Creeks. The Brandywine Creek at Chadds Ford was above its 9 foot flood stage from 1029 a.m. EDT on the 15th through 547 a.m. EDT on the 16th. It crested (sixth highest ever) at 13.72 feet at 557 p.m. EDT on the 15th. Chester Creek in Chester was above its 8 foot flood stage from 629 p.m. EDT through 740 p.m. EDT on the 15th. It crested at 8.15 feet at 7 p.m. EDT. Crum Creek at Newtown Square was above its 6 foot flood stage from 621 p.m. EDT through 928 p.m. EDT on the 15th. It crested at 6.72 feet at 730 p.m. EDT. Storm totals included 3.87 inches in Chadds Ford.

# Storm Data and Unusual Weather Phenomena

September 2003

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## **PENNSYLVANIA, East**

### **Lehigh County**

#### **Countywide**

**15 1700EST  
2000EST 0 0 Flash Flood**

Remnant moisture from Tropical Storm Henri produced copious amounts of rain during the morning and again during the late afternoon and early evening across Lehigh County. The heaviest rain fell across Upper and Lower Milford Townships in the southwest part of the county and Washington Township and Slatington Borough in the northeast part of the county. Doppler Radar storm total estimates ranged between 2 and 6 inches. Thunderstorms with torrential downpours moved from south to north across the same areas during the morning and another band of heavy rain moved through during the late afternoon. The second band was too much for area streams to handle. Storm totals included 3.45 inches at the Lehigh Valley International Airport.

### **Northampton County**

#### **Southwest Portion**

**15 1730EST  
1930EST 0 0 Flash Flood**

Remnant moisture from Tropical Storm Henri produced copious amounts of rain during the morning and again during the late afternoon and early evening across southwestern sections of Northampton County. The heaviest rain fell across Lower Saucon Township and Hellertown Borough. Doppler Radar storm total estimates reached between 2 and 4 inches. Thunderstorms with torrential downpours moved from south to north across the same areas during the morning and another band of heavy rain moved through during the late afternoon. The second band was too much for area streams to handle. Storm totals included 3.92 inches in Walnutport Borough.

### **Bucks County**

#### **Northwest Portion**

**15 1735EST  
1930EST 0 0 Flash Flood**

Remnant moisture from Tropical Storm Henri produced copious amounts of rain during the morning and again during the late afternoon and early evening across northwestern sections of Bucks County. The heaviest rain fell across Milford Township and Trumbauersville Borough. Doppler Radar storm total estimates reached between 3 and 4 inches. Thunderstorms with torrential downpours moved from south to north across the same areas during the morning and another band of heavy rain moved through during the late afternoon. There was widespread poor drainage flooding as well as flooding of creeks and streams. Storm totals included 2.94 inches in Perkasie.

### **PAZ054>055-060>062-067>071 Carbon - Monroe - Berks - Lehigh - Northampton - Chester - Montgomery - Bucks - Delaware - Philadelphia**

**18 1600EST  
19 0500EST 0 0 High Wind (G52)**

### **Chester County**

#### **Valley Forge**

**19 0120EST  
0151EST 0 0 Flash Flood**

### **PAZ069>071**

#### **Bucks - Delaware - Philadelphia**

**19 0300EST  
1800EST 0 1 Storm Surge**

Tropical Storm Isabel produced strong power outage producing winds, moderate tidal flooding along the Delaware River and stream flooding in Chester County. Isabel made landfall as a hurricane near Drum Inlet, North Carolina around 100 p.m. EDT on the 18th and weakened as it tracked farther inland. At one time in its life cycle, it was a powerful Category 5 hurricane when it was north of the Leewood Islands. Winds gusted up to 60 mph in Eastern Pennsylvania and downed countless numbers of trees, tree limbs and power lines. It was the worst outage on record for PECO Energy in southeastern Pennsylvania. About 572,425 of its customers lost power. This exceeded the outages that occurred during the ice storm of January 1994. Isabel's track took into western Pennsylvania and was able to funnel water into Delaware River and Bay. Moderate tidal flooding occurred. In Philadelphia, the tide crested at 9.47 feet above mean lower low water. The storm surge was 5.43 feet. The rain was not heavy and the only reported gaged stream flooding was in Chester County. The heaviest rain with tropical systems often falls west of its storm track, thus the region was spared from the heavier rain.

Peak wind gusts included 60 mph in Forks Township (Northampton County), 49 at the Philadelphia International Airport and the Reading Regional Airport (Berks County), 47 mph at the Lehigh Valley International Airport and 46 mph at the Pocono Mountains Regional Airport (Monroe County). The Valley Creek at Valley Forge (Chester County) was above its 7 foot flood stage from 220 a.m. through 251 a.m. EDT on the 19th and crested at 7.26 feet at 230 a.m. EDT. Storm totals included 1.50 inches in Valley Forge (Chester County), 1.35 inches in Glenmoore (Chester County), 1.16 inches at the Lehigh Valley International Airport, 1.14 inches at the Philadelphia International Airport and 0.81 inches in Mount Pocono (Monroe County).

### **Chester County**

#### **Paoli**

**23 0540EST 0 0 Thunderstorm Wind (G65)**

A powerful line of severe thunderstorms uprooted hundreds of trees in Paoli (Tredyffrin Township). Several homes were damaged and one detached garage was blown off its foundation.

### **Delaware County**

#### **Havertown**

**23 0615EST 0 0 Thunderstorm Wind (G61)**

A powerful line of severe thunderstorms uprooted whole trees in Havertown (Haverford Township).



## Storm Data and Unusual Weather Phenomena

Time Local/	Path Length	Path Width	Number of Persons	Estimated Damage
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Location	Date	Standard	(Miles)	(Yards)	Killed	Injured	Property	Crops	Character of Storm
<b><u>PENNSYLVANIA, East</u></b>									
<b>Montgomery County</b>									
<b>Narberth</b>	<b>23</b>	<b>0620EST</b> <b>0621EST</b>	<b>0.8</b>	<b>100</b>	<b>0</b>	<b>0</b>			<b>Tornado (F1)</b>
		An F1 tornado touched down along the Lower Merion Township side of the Narberth Borough/Lower Merion Township line. The tornado then proceeded east into Narberth Borough and remained on the ground for three-quarters of a mile. Wind damage was mainly whole trees and wires that were knocked down. A few trees fell on homes. Maximum estimated wind speed was 75 mph.							
<b>Philadelphia County</b>									
<b>Philadelphia</b>	<b>23</b>	<b>0625EST</b> <b>0705EST</b>			<b>0</b>	<b>0</b>			<b>Thunderstorm Wind (G52)</b>
		A powerful line of severe thunderstorms uprooted several trees in Philadelphia.							
<b>Bucks County</b>									
<b>Solebury</b>	<b>23</b>	<b>0640EST</b>			<b>0</b>	<b>0</b>			<b>Thunderstorm Wind (G52)</b>
		A powerful line of severe thunderstorms uprooted trees and downed wires in Buckingham and Solebury Townships.							
<b>Bucks County</b>									
<b>Central Portion</b>	<b>28</b>	<b>0050EST</b> <b>0300EST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
		Thunderstorms with heavy rain dropped a Doppler Radar storm total estimate of 3 to 4 inches across central Bucks County between Doylestown and Perkasio. Flooding of smaller streams occurred.							
<b><u>PENNSYLVANIA, Northeast</u></b>									
<b>Luzerne County</b>									
<b>Pittston</b>	<b>03</b>	<b>1205EST</b>			<b>0</b>	<b>0</b>	<b>20K</b>		<b>Lightning</b>
		Lightning hit a house on Rock Street in Pittston Township starting a fire in the attic. The fire left a hole in the roof. Water and smoke damage was reported throughout the house.							
<b>Lackawanna County</b>									
<b>Countywide</b>	<b>03</b> <b>04</b>	<b>2300EST</b> <b>0500EST</b>			<b>0</b>	<b>0</b>	<b>5M</b>		<b>Flash Flood</b>
		1 to 3 inches of heavy rain in a short period of time caused rapid flash flooding of streams and urban areas. The ground was already saturated from several inches that fell on September 2nd. Most areas in the county had some flooding. The worst flooding was in the townships of Jermyrn, Carbondale, Mayfield, and Scott. The Lackawanna River at Archbald crested at 10.2 feet which is above its 8 foot estimated flood stage. The Lackawanna River went out of its banks in many towns and cities including Scranton. A 58 year old man trying to get to his car in Carbondale had a heart attack and died. Hundreds of people were evacuated in the middle of the night. Many homes had several feet of water in basements. In Jermyrn a few houses had debris pushed into their basements due to the flooded Rushbrook Creek. Also in Jermyrn, slabs of cement and pavement were upturned, bridges washed out, and roads undermined and washed out. Some repairs to roads in the county will take several weeks. Many cars were caught in the flood.							
<b>Wayne County</b>									
<b>Central Portion</b>	<b>04</b>	<b>0000EST</b> <b>0400EST</b>			<b>0</b>	<b>0</b>	<b>1.5M</b>	<b>20K</b>	<b>Flash Flood</b>
		1 to 3 inches of heavy rain in less than 6 hours caused flash flooding. The ground was already saturated due to several inches of rain that fell on September 2nd. Dyberry creek came out of its banks in many locations. Mount Pleasant, Dyberry, Damascus and Oregon Townships, and the Borough of Honesdale were the most affected. A few bridges were damaged. One bridge in Oregon Township will have to be replaced by a new bridge. Several roads were washed out. Many people had water in their basements.							
<b>Bradford County</b>									
<b>Towanda to Stevensville</b>	<b>04</b>	<b>1820EST</b> <b>2030EST</b>			<b>0</b>	<b>0</b>	<b>100K</b>		<b>Flash Flood</b>
		Numerous roads and streets floods in the townships of Towanda, Ulster, Wysox, and Stevens. 3 feet of water was on some streets in the borough of Towanda. Numerous roads were closed off. Route 6 in Towanda had a foot of water on it. 1 to 2 inches of rain fell in a short amount of time on already saturated ground.							
<b>Bradford County</b>									
<b>Wysox</b>	<b>04</b>	<b>1830EST</b>			<b>0</b>	<b>0</b>	<b>5K</b>		<b>Hail (1.75)</b>
		Golf ball sized hail.							
<b>Bradford County</b>									
<b>Stevensville</b>	<b>04</b>	<b>1900EST</b>			<b>0</b>	<b>0</b>	<b>50K</b>		<b>Thunderstorm Wind (G60)</b>
		Numerous trees fell along Route 706 near Stevensville in southern Stevens Township. Damage continued east over Clapper Hill Road where approximately 100 trees were sheared off along the hillside. Nearby along another hillside numerous trees were sheared off. A gas tank was thrown through a field. Eyewitness report along with a storm survey show damage was consistent with a microburst.							
<b>Susquehanna County</b>									
<b>Auburn Center to Clifford</b>	<b>04</b>	<b>1910EST</b> <b>1940EST</b>			<b>0</b>	<b>0</b>	<b>50K</b>		<b>Thunderstorm Wind (G60)</b>
		Numerous trees down in the townships of Auburn, Springville, and Clifford. In Springville, many trees fell along State Routes 3004 and 3006. A couple of houses had trees fall on the roofs.							

## Storm Data and Unusual Weather Phenomena

Time Local/	Path Length	Path Width	Number of Persons	Estimated Damage
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Location	Date	Standard	(Miles)	(Yards)	Killed	Injured	Property	Crops	Character of Storm
<b><u>PENNSYLVANIA, Northeast</u></b>									
<b>Susquehanna County</b>									
Auburn Center to Clifford	04	1930EST 2130EST			0	0	100K		Flash Flood
Thunderstorms with heavy rain caused streams to overflow their banks onto roads in Auburn, Springville, and Clifford. 1 to 2 inches of rain fell in a short period of time on already saturated ground.									
<b>PAZ038&gt;040-043&gt;044-047&gt;048</b>									
<b>Bradford - Susquehanna - Wayne - Wyoming - Lackawanna - Luzerne - Pike</b>									
	19	0500EST 1800EST			0	0	350K		High Wind (G50)
Remnants of hurricane Isabel moved up through western Pennsylvania and western New York on the 19th. It brought with it high winds. Most locations had gusts to between 40 and 50 mph, but higher elevations may have had higher gusts. Scattered reports of trees and wires down were common. Tens of thousands of electric customers were without power. A few trees and wires fell on cars and houses, and closed roads.									
<b><u>PENNSYLVANIA, Northwest</u></b>									
<b>Erie County</b>									
Erie	27	0230EST			0	0	3K		Thunderstorm Wind (G50)
Thunderstorm winds downed a few large tree limbs.									
<b>Crawford County</b>									
Conneaut Lake	27	0420EST			0	0	3K		Thunderstorm Wind (G50)
Thunderstorm winds downed a few large tree limbs.									
<b><u>PENNSYLVANIA, West</u></b>									
<b>Lawrence County</b>									
6 E New Castle	01 02	2220EST 0030EST			0	0			Flash Flood
Herman Church Rd flooded near Route 422.									
<b>Venango County</b>									
Barkeyville	01	2230EST 2330EST			0	0			Flash Flood
Route 8 flooded just south of Barkeyville.									
<b>Lawrence County</b>									
Neshannock Falls to Eastbrook	01 02	2236EST 0100EST			0	0			Flash Flood
Neshannock Creek flooded in Hickory Twp, along Neshannock and East Brook Roads.									
<b>Venango County</b>									
Emlenton Station	01	2236EST 2345EST			0	0			Flash Flood
State Route 38 flooded.									
<b>Butler County</b>									
Chicora	01 02	2300EST 0030EST			0	0			Flash Flood
Hooker Road flooded.									
<b>Lawrence County</b>									
Neshannock Falls to 4 E Neshannock Falls	01 02	2300EST 0115EST			0	0	90K		Flash Flood
Flooding caused a house to collapse in Neshannock Twp, and a road to collapse between Neshannock and Washington Townships. Trailer court evacuated									
<b>Clarion County</b>									
Shippenville	01 02	2300EST 0100EST			0	0			Flash Flood
Route 208 flooded.									
<b>Jefferson County</b>									
Sigel	01 02	2300EST 0100EST			0	0			Flash Flood
Road flooded.									
<b>Clarion County</b>									
Strattanville	01 02	2315EST 0100EST			0	0			Flash Flood
Road flooded.									
<b>Lawrence County</b>									
New Castle	03	0410EST 0615EST			0	0			Flash Flood
Mercer Rd flooded.									

## Storm Data and Unusual Weather Phenomena

Time Lost/ Length	Path	Path Width	Number of Persons	Estimated Damage
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Location	Date	Standard	(Miles)	(Yards)	Killed	Injured	Property	Crops	Character of Storm
<b>PENNSYLVANIA, West</b>									
<b>Lawrence County</b>									
New Castle	03	0510EST 0615EST			0	0			Flash Flood
		Cedar and Lafayette Streets flooded.							
<b>Beaver County</b>									
Fombell to 2 S Fombell	09	1555EST 1730EST			0	0	5K		Flash Flood
		Herman Rd in Marion Twp flooded. Soap Run Rd in Franklin Twp flooded. Flood waters running into house in Fombell.							
<b>PAZ016-023-030-032</b>									
		<b>Jefferson - Indiana - Westmoreland - Fayette</b>							
	18	2330EST			0	0	8K		High Wind (G52)
	19	0200EST							
		Remnants of Hurricane Isabel caused wind gusts in the neighborhood of 60 mph, knocking down trees and utility lines in various sections of these counties. Isabel passed over Pittsburgh around 8 AM EDT on the 19th. Wind gusts from Isabel started after 7 PM on the 18th and continued, from time to time, through the afternoon of the 19th.							
<b>PUERTO RICO</b>									
<b>Southwest</b>									
Lajas	02	1500AST 1600AST			0	0			Heavy Rain
		Showers and isolated thunderstorms developed during the early afternoon across the central and interior part of the island causing minor street flooding in Lajas as the moved southwest. The heavy downpours lasted about 15 minutes.							
<b>PRZ001-001</b>									
		<b>San Juan And Vicinity</b>							
	03	1030AST			1	0	30K		Heavy Surf/High Surf
	04	2235AST							
		Long period swells generated by Hurricane Fabian combined with unusually high tides to produce large breaking waves that affected the north...northwest and east coastal areas of Puerto Rico, including Vieques and Culebra. Waves slammed into three blocks of sea wall in Ocean Park, knocking out a 10 foot section at a construction site. The beach in front of the Jose Celso Barbosa Park was washed away. On Thursday the three blocks of beach from the Ultimo trolley area to Hosteria del Mar was impassable as large waves rolled in and slammed into the wall. M37IW							
<b>Mayaguez And Vicinity</b>									
Moca	05	1850AST			0	0			Funnel Cloud
		A funnel cloud was reported in Las Marias sector of Moca moving towards the town.							
<b>Northeast</b>									
Ceiba	08	1355AST 1515AST			0	0			Thunderstorm Wind (G52)
		Intense thunderstorms was reported across the municipality of Ceiba by Roosevelt Roads Weather Office.							
<b>Northeast</b>									
Ceiba	08	1545AST 1730AST			0	0	8K		Flash Flood
		Isolated strong thunderstorms produced heavy rainfall along the coastal section of Ceiba causing flooding along Highway 3. Several cars were reported flooded near Quebrada Seca along the intersection with road 53 due to poor drainage.							
<b>Northeast</b>									
Naguabo	08	1550AST 1730AST			0	0	20K		Flash Flood
		Twenty houses were flooded due to river Daguao overflowing its banks.							
<b>Mayaguez And Vicinity</b>									
Aguada	12	1400AST 1500AST			1	0	7K		Flash Flood
		A 50 year old female was washed away by the initial flood crest at the Chuco Ramos Sector of Barrio Piedras Blancas when she attempted to make a low water crossing in her vehicle. F50VE							
<b>PRZ006</b>									
		<b>Central Interior</b>							
	18	1500AST			0	0	0.50K		Strong Wind
		A resident of Barrio Las Cumbres Romero in Villalba reported strong gusty winds that blew away some zinc roof shingles from his home.							
<b>North Central</b>									
Arecibo	20	1056AST 1356AST			0	0			Heavy Rain
		Urban flooding was reported along the entrance to the town of Barceloneta.							
<b>San Juan And Vicinity</b>									
San Juan	20	1925AST 2125AST			0	0			Heavy Rain
		Urban flooding was reported in Barrio Obrero, San Jose and Hato Rey.							

## Storm Data and Unusual Weather Phenomena

Time Local/	Path Length	Path Width	Number of Persons	Estimated Damage
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Location	Date	Standard	(Miles)	(Yards)	Killed	Injured	Property	Crops	Character of Storm
<b>PUERTO RICO</b>									
<b>Northeast</b>									
<b>Fajardo</b>	<b>20</b>	<b>1955AST 2155AST</b>			<b>0</b>	<b>0</b>			<b>Heavy Rain</b>
		Spotter from Fajardo reported urban flooding along road 195 towards the beach.							
<b>Western Interior</b>									
<b>Adjuntas</b>	<b>21</b>	<b>1252AST 2100AST</b>			<b>0</b>	<b>0</b>	<b>2K</b>		<b>Flash Flood</b>
		A flooded house was reported at Barrio Castañer, Villa Rica sector.							
<b>Western Interior</b>									
<b>Lares</b>	<b>21</b>	<b>1330AST 1430AST</b>			<b>0</b>	<b>0</b>			<b>Heavy Rain</b>
		Downed power lines and a tree was reported at Las Campanas sector, road 454.							
<b>San Juan And Vicinity</b>									
<b>Trujillo Alto</b>	<b>21</b>	<b>1356AST 2000AST</b>			<b>0</b>	<b>0</b>	<b>200K</b>		<b>Flash Flood</b>
		Many sectors of Trujillo Alto were reported flooded as three small streams went out of their banks . Quebrada La Leprosa, La Cepero, and Blasina. Fourteen families were affected by flood waters at Sector Hoyo 2, road 845.							
<b>San Juan And Vicinity</b>									
<b>Bayamon</b>	<b>21</b>	<b>1416AST 2100AST</b>			<b>0</b>	<b>0</b>			<b>Heavy Rain</b>
		A house was reported flooded at Jardines de Caparra urbanization.							
<b>San Juan And Vicinity</b>									
<b>Carolina</b>	<b>21</b>	<b>1431AST 2000AST</b>			<b>0</b>	<b>0</b>	<b>3K</b>		<b>Flash Flood</b>
		Several homes and roads were reported flooded in Saint Just, Villa Carolina, San Francisco Street. Eleven families were affected at Betania Street in Saint Just.							
<b>San Juan And Vicinity</b>									
<b>San Juan</b>	<b>21</b>	<b>1435AST 2000AST</b>			<b>0</b>	<b>0</b>	<b>3K</b>		<b>Flash Flood</b>
		Several homes were reported flooded in Villa Nevarez, Villa Olimpica and Barriada Israel.							
<b>Northeast</b>									
<b>Luquillo</b>	<b>21</b>	<b>1443AST 2000AST</b>			<b>0</b>	<b>0</b>	<b>2K</b>		<b>Flash Flood</b>
		Road 992 was reported flooded. Flooded homes were reported in Comunidad El Hoyo and at Barrio Fortuna.							
<b>Eastern Interior</b>									
<b>Cayey</b>	<b>21</b>	<b>1448AST 2000AST</b>			<b>0</b>	<b>0</b>	<b>2K</b>		<b>Flash Flood</b>
		Flooded home along road 1 at Jesus T. Pineiro.							
<b>Northeast</b>									
<b>Rio Grande</b>	<b>21</b>	<b>1500AST 2100AST</b>			<b>0</b>	<b>0</b>			<b>Heavy Rain</b>
		Several homes were reported flooded at Barrio Palmer, Rio Grande affecting seven families. The bridge at the Muñiz-Muñiz sector along road 967 at Barrio Tres T collapsed, isolating 35 families.							
<b>Eastern Interior</b>									
<b>Caguas</b>	<b>21</b>	<b>1517AST 2000AST</b>			<b>0</b>	<b>0</b>	<b>60K</b>		<b>Flash Flood</b>
		Many homes and roads were reported flooded in Caguas.							
<b>Eastern Interior</b>									
<b>Cidra</b>	<b>21</b>	<b>1518AST 2100AST</b>			<b>0</b>	<b>0</b>	<b>2K</b>		<b>Flash Flood</b>
		A house was reported flooded at the urbanization Ciudad Primavera.							
<b>North Central</b>									
<b>Manati</b>	<b>21</b>	<b>1518AST 2100AST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
		A house was reported flooded at Barrio Tierras Nuevas, El Hono sector. Several roads and highways were reported flooded like 685, 604, 643 and higway 2.							
<b>Central Interior</b>									
<b>Morovis</b>	<b>21</b>	<b>1532AST 2100AST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
		Several homes were reported flooded at Barrio Barahona and Torrecillas. Eight families were affected.							
<b>PRZ006-006&gt;007</b>									
<b>Central Interior - Ponce And Vicinity</b>									
	<b>21</b>	<b>1606AST 2100AST</b>			<b>0</b>	<b>0</b>			<b>Landslide</b>
		Landslide was reported along road 167, at La Mulita sector in Naranjito.							

## Storm Data and Unusual Weather Phenomena

Time Local/	Path Length	Path Width	Number of Persons	Estimated Damage
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Location	Date	Standard	(Miles)	(Yards)	Killed	Injured	Property	Crops	Character of Storm
<b><u>PUERTO RICO</u></b>									
<b>Eastern Interior</b>									
Aguas Buenas	21	1725AST 2100AST			0	0	3K		Flash Flood
Several homes and roads were reported flooded. A weak tropical wave entering the Lesser Antilles interacted with mid to upper level low pressure located northwest of Puerto Rico to generate heavy rains , landslides and flash flooding over many municipalities. Some events were urban flooding, others like in Trujillo Alto more serious flash flooding due to heavy rains.									
<b>Central Interior</b>									
Corozal	24	1840AST 2047AST			0	0			Flash Flood
In the headwaters of Rio Cibuco water covered a bridge and part of road 807. Some small streams were reported out of their banks and some mudslides occurred.									
<b><u>RHODE ISLAND</u></b>									
<b>RIZ006</b>									
Washington	18	1130EST			1	0			Heavy Surf/High Surf
A 67-year old man drowned off the coast of Narragansett. High surf associated with Hurricane Isabel caused him to lose his footing near Black Point, sweeping him into the water. M67OT									
<b><u>SOUTH CAROLINA, Central</u></b>									
<b>Saluda County</b>									
1 NW Batesburg	04	1535EST			0	0		0	Thunderstorm Wind (G50)
Police reported a couple of trees and powerlines down on hwy 178.									
<b>Lexington County</b>									
Batesburg	04	1540EST			0	0		0	Thunderstorm Wind (G50)
Police reported a few trees down in Batesburg around Summerland and Youman streets.									
<b><u>SOUTH CAROLINA, North Coastal</u></b>									
NONE REPORTED.									
<b><u>SOUTH CAROLINA, Northwest</u></b>									
<b>Laurens County</b>									
Laurens	04	1210EST			0	0	1K		Thunderstorm Wind (G50)
Some power lines were blown down.									
<b>Laurens County</b>									
Clinton	04	1250EST			0	0	1K		Thunderstorm Wind (G50)
Two trees were blown down on Bond Street. Power lines were knocked down as the trees fell.									
<b>Greenwood County</b>									
Greenwood	04	1530EST			0	0	1K		Lightning
Lightning struck a house and an apartment complex, causing some minor damage.									
<b>Oconee County</b>									
Countywide	22	1600EST 1800EST			0	0			Heavy Rain
<b>Pickens County</b>									
Countywide	22	1600EST 1900EST			0	0			Heavy Rain
A strong storm system produced very heavy rainfall over portions of the Upstate, resulting in some urban and small stream flooding during the early evening. Near Easley, water was up to a foot deep along highway 123. More significant flooding developed in Pickens County later in the evening.									
<b>Oconee County</b>									
Mountain Rest to Westminster	22	1700EST 1800EST			0	0			Thunderstorm Wind (G55)
Numerous trees were blown down, particularly in areas north of Walhalla.									
<b>Pickens County</b>									
Pickens	22	1900EST 2000EST			0	0			Flash Flood
A strong storm system produced very heavy rainfall across portions of the Upstate, which resulted in some flooding across Pickens County. A creek flooded part of City Lake Road. Flooding of urban and poor drainage areas was fairly widespread across the county.									

# Storm Data and Unusual Weather Phenomena

September 2003

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## SOUTH CAROLINA, South Coastal

### **Dorchester County**

1 NW Jedburg	08	0845EST 0930EST			0	0			Flash Flood
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Heavy rain flooded Cypress Campground Road and Grapevine Road.

### **Berkeley County**

1 NW Moncks Corner to 1 S Moncks Corner	08	0905EST 0945EST			0	0			Flash Flood
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Heavy rain flooded US Route 52, US Route 17A, and Stoney Landing Road.

## SOUTH DAKOTA, Central and North

### **Edmunds County**

10 NE Ipswich	10	1500CST			0	0			Hail (0.75)
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### **Mepherston County**

4 SE Leola	10	1530CST			0	0			Hail (0.75)
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### **Brown County**

8 NW Frederick	10	1600CST			0	0			Hail (0.75)
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### **Clark County**

4 S Garden City	17	2130CST			0	0			Hail (0.75)
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### **Codington County**

5 NE Wallace	17	2200CST			0	0			Hail (0.75)
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### **Day County**

12 SW Waubay	17	2201CST			0	0			Hail (0.88)
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### **Day County**

1 N Waubay	17	2245CST			0	0			Hail (0.88)
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## SOUTH DAKOTA, Southeast

### **Jerauld County**

9 W Wessington Spgs	17	2058CST			0	0			Hail (0.75)
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### **Brule County**

Chamberlain	17	2103CST			0	0			Hail (1.00)
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### **Beadle County**

9 SW Virgil	17	2118CST			0	0			Hail (0.75)
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### **Beadle County**

7 W Virgil	17	2121CST			0	0			Hail (1.00)
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## SOUTH DAKOTA, West

### **SDZ001-013-031>032 Harding - Northern Meade Co Plains - Pennington Co Plains - Haakon**

10	1149MST 1707MST	0	0	0	0	High Wind (G53)
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A strong storm system moved across the Northern Plains during the day, bringing heavy rains and strong winds to much of northwest and west central South Dakota. Northwest winds increased to 30 to 45 mph late in the morning and continued through the afternoon. Wind gusts to near 60 mph were recorded across areas from Faith to Philip during the late afternoon hours.

## TENNESSEE, Central

### **Davidson County**

11.8 SE Nashville	22	0500CST 0830CST			0	0	83K		Flash Flood
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Davidson County Office of Emergency Management reported Mill Creek overflowed its banks and came onto the intersection of Nolensville Road and Bluff Road. A Mercedes-Benz was swept downstream, and a person had to be rescued from the top of his car.

### **Davidson County**

6 SE Nashville	22	0530CST 1000CST			0	0			Flash Flood
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Hamilton Church Pike was flooded and impassable.

### **Davidson County**

Nashville	22	0545CST 1000CST			0	0			Flash Flood
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Spotter reported a foot of water at the intersection of Bell Road and I-24.

## Storm Data and Unusual Weather Phenomena

September 2003

September 2003									
Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed Injured		Estimated Damage Property Crops	Character of Storm	
<b>TENNESSEE, Central</b>									
<b>Davidson County</b>									
Nashville	22	0630CST 1000CST			0	0			Flash Flood
Flooding was occurring on Thompson Lane and Old Glenn Rd. Mill Creek was out of its banks.									
<b>Maury County</b>									
3 NE Columbia	22	0630CST 1000CST			0	0			Flash Flood
Spotter reported street flooding on Baker Road and Carters Creek Rd. Some motorists were temporarily stranded on several rural roads according to newspaper accounts.									
<b>Rutherford County</b>									
La Vergne	22	0630CST 0830CST			0	0			Flash Flood
Newspaper account of a road closed in La Vergne due to high water, at Old Nashville Highway, under the railroad underpass.									
<b>Rutherford County</b>									
Murfreesboro	22	0630CST 0830CST			0	0			Flash Flood
TDOT reported a few streams were out of their banks, but no roads were flooded. There was high water on some slabs. High water was reported at the intersection of Old Nashville Highway and Lokey Avenue, at the railroad overpass.									
<b>Williamson County</b>									
8.9 NE Franklin	22	0630CST 0800CST			0	0			Flash Flood
The Brentwood YMCA parking lot was flooded.									
<b>Davidson County</b>									
13 ESE Nashville	22	0700CST 1000CST			0	0	10K		Flash Flood
Tulip Grove Road was closed and barricaded due to high water about 1/2 mile south of the intersection of Lebanon Pike and Tulip Grove Road. Stoner Creek was out of its banks at this location. Also, Stoner Creek flooded a home on Andrew Jackson Parkway in Hermitage.									
<b>Wilson County</b>									
3 SW Mt Juliet	22	0700CST 1000CST			0	0			Flash Flood
About 6 inches of water on several low spots on Central Pike in Wilson County.									
<b>Clay County</b>									
Countywide	22	0726CST 1200CST			0	0			Flash Flood
Sheriff's office reported high water on many roads around the county.									
<b>Dekalb County</b>									
Alexandria	22	0730CST 1000CST			0	0			Flash Flood
Local Police Department reported 6 to 12 inches of water on roads.									
<b>Dekalb County</b>									
Smithville	22	0730CST 1000CST			0	0			Flash Flood
Local Police Department reported 6 to 12 inches of water on roads.									
<b>Macon County</b>									
3 N Lafayette	22	0730CST 1000CST			0	0			Flash Flood
TDOT reported 11/2 foot of water on Shiloh Road.									
<b>Marshall County</b>									
North Portion	22	0730CST 1000CST			0	0			Flash Flood
TDOT placed high water signs on roads in the northern part of the county.									
<b>Moore County</b>									
Lynchburg	22	0730CST 1000CST			0	0			Flash Flood
Sheriff's office reported a few streams out of their banks.									
<b>Overton County</b>									
Countywide	22	0730CST 1200CST			0	0			Flash Flood
TDOT reported high water on many roads throughout the county.									
<b>Sumner County</b>									
Countywide	22	0730CST 1000CST			0	0	10K		Flash Flood
TDOT reported many roads were closed due to high water in Gallatin, Hendersonville, Bethpage and Westmoreland. In a new subdivision off Harris Road in Portland, water got into a home on Willow Court.									

## Storm Data and Unusual Weather Phenomena

Time Local/	Path Length	Path Width	Number of Persons	Estimated Damage
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Location	Date	Standard	(Miles)	(Yards)	Killed	Injured	Property	Crops	Character of Storm
<b><u>TENNESSEE, Central</u></b>									
<b>White County</b>									
Countywide	22	0730CST 1030CST			0	0			Flash Flood
		Sheriff's office reported 6 to 12 inches of water on many roads around the county.							
<b>Wilson County</b>									
Mt Juliet	22	0730CST 1000CST			0	0	20K		Flash Flood
		Flooding was occurring at the intersection of Old Lebanon Dirt Road and Mt. Juliet Road. Water was getting into a bank and into some homes. Flooding was occurring at a nearby parking lot of a strip mall, named Valley Center. Two men were seen canoeing in a Little League ball field in Mt. Juliet.							
<b>Grundy County</b>									
Pelham	22	0800CST 1200CST			0	0			Flash Flood
		Sheriff's office reported high water on many roads throughout the county, but Pelham was the hardest hit due to road closures.							
<b>Wilson County</b>									
4 NW Mt Juliet	22	0810CST 0930CST			0	0			Flash Flood
		NWS employee reported Needmore Road was closed due to Shutes Branch coming out of its banks.							
<b>Putnam County</b>									
Cookeville	22	0930CST 1200CST			0	0			Flash Flood
		High water over roads.							
<b>Van Buren County</b>									
Countywide	22	0930CST 1200CST			0	0			Flash Flood
		Sheriff's office reported 6 inches of water on many roads throughout the county.							
<b>Cumberland County</b>									
Crab Orchard	22	1015CST 1200CST			0	0			Flash Flood
		Heavy rains produced a mudslide along Interstate 40.							
<b>Cumberland County</b>									
Crossville	22	1015CST 1200CST			0	0			Flash Flood
		Many roads were under high water.							
<b>Fentress County</b>									
East Portion	22	1030CST 1230CST			0	0			Flash Flood
		Several roads were under water across the eastern part of the county, including Allardt.							
<b>White County</b>									
Sparta	27	1009CST			0	0			Thunderstorm Wind (G50)
		Trees were blown down in the city.							
<b>Cumberland County</b>									
Crossville	27	1040CST 1042CST			0	0			Thunderstorm Wind (G51)
		Emergency Manager estimated wind gusts up to 60 mph at 1042 AM CST. Metal canopies and power lines were down at intersection of U.S. Highway 70 and Elmore. Also, a large Kroger sign was blown down. About a dozen trees were blown down at an industrial park along U.S. Highway 127. The strong winds blew down a large Taco Bell sign and a large McDonald sign.							
<b><u>TENNESSEE, East</u></b>									
<b>Hawkins County</b>									
Van Hill	27	1415EST			0	0	15K		Thunderstorm Wind (G55)
		Trees were reported down on power lines.							
<b>Greene County</b>									
Jearoldstown	27	1430EST			0	0	9K		Thunderstorm Wind (G55)
		A few trees were reported down in Jearoldstown.							
<b>Sullivan County</b>									
Countywide	27	1445EST			0	0			Hail (0.88)
		Nickel sized hail was reported across the county.							
<b>Sullivan County</b>									
Blountville	27	1515EST			0	0	6K		Thunderstorm Wind (G55)
		Two trees were reported down in Blountville.							



# Storm Data and Unusual Weather Phenomena

September 2003

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed Injured	Estimated Damage Property Crops	Character of Storm
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## TENNESSEE, West

NONE REPORTED.

## TEXAS, Central

### **Mason County Countywide**

11	1645CST 1845CST				0	0	1K	Flash Flood
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Thunderstorms ahead of a cold front produced up to four inches of rain over Mason county in the late afternoon and evening of the 11th. This produced significant flooding in the city of Mason and secondary roads throughout the county.

### **Mason County 8 W Mason**

11	1840CST				0	0	2K	Thunderstorm Wind (G61)
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Strong thunderstorm winds ripped shingles off of a roof and knocked down tree limbs.

### **Brown County Brownwood**

14	0430CST 0800CST				0	0	10K	Flash Flood
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Rainfall of up to 5 inches fell on the city of Brownwood causing significant flooding of streets. Some homes also had some minor flooding for a short time.

### **Mcculloch County East Portion**

14	0800CST 1000CST				0	0		Flash Flood
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Numerous highways in the eastern portion of Mcculloch county had water over them.

### **San Saba County Northwest Portion**

14	0830CST 1030CST				0	0		Flash Flood
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Numerous roads in the northern and western portions of the county were under water for several hours after rainfall amounts of 3 to 5 inches occurred.

### **Mcculloch County 15 NE Brady**

25	1744CST 2000CST				0	0		Flash Flood
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Secondary roads in the northeast portion of the county were under water for several hours after heavy rains.

## TEXAS, Central Southeast

### **TXZ164-177-214- 236>238**

### **Trinity - Walker - Chambers - Matagorda - Brazoria - Galveston**

01	0000CST				0	0	63K	Tropical Storm
02	1500CST							

This flash flood event was from the remnants of Tropical Storm Grace. Grace's broad and poorly defined center moved inland between Port O'Connor and Freeport on the last day of August. Heavy rains before and after landfall resulted in flash flooding across mainly upper Texas coastal areas. These heavy rains continued into the first two days of September as remnant feeder bands continued to develop and move across portions of Southeast Texas.

Heavy rainfall between 6 and 15 inches was observed from extreme eastern Galveston County to across the Bolivar Peninsula and northward into Chambers and portions of Liberty Counties. Some roads were flooded in these areas. A secondary area of very heavy rainfall was over southern Matagorda County where an estimated 6 to 12 inches was observed. The majority of this rain fell in the early morning hours of September 1st. The Corps of Engineers at the Matagorda River Locks (Matagorda, Matagorda County) reported 9 inches of rain between 1 AM and 7 AM CST on that day. This heavy rainfall flooded roads and a few homes.

Rainfall totals from the 1st and 2nd included 1.42 inches in Galveston, 2.92 inches at Jamaica Beach, 4.75 inches in Freeport, and 9.50 inches in Matagorda. Much of the rain that occurred these two days fell on extremely saturated grounds which lead to the flash flooding.

### **Matagorda County Matagorda**

01	0345CST 0730CST				0	0	30K	Flash Flood
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Flooding in and around Matagorda, three homes flooded on South 60.

### **Chambers County East Portion**

01	0715CST 0845CST				0	0	3K	Flash Flood
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High water across Hwy 124 between Winnie and High Island.

### **Galveston County Countywide**

01	0715CST 0845CST				0	0	4K	Flash Flood
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High water across Hwy 87 on the Bolivar Peninsula. Street flooding around FM 518 and I-45.

### **Trinity County Groveton**

01	2235CST				0	0	3K	Flash Flood
02	0100CST							

Flooding on some county roads in and around Groveton.

# Storm Data and Unusual Weather Phenomena

September 2003

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## TEXAS, Central Southeast

### Fort Bend County

2 SW Kendleton

02

1108CST

0

0

Funnel Cloud

Funnel cloud reported at Hwy 59 and Lum Road.

### Galveston County

League City

02

1124CST

0

0

Funnel Cloud

Funnel cloud reported between Egret Bay and League City.

### Waller County

2 S Waller

02

1244CST

0

0

Funnel Cloud

Funnel cloud 2 miles south of Waller or 5 miles west of Hockley moving northeast.

### Washington County

Chappell Hill

02

1254CST

0

0

Funnel Cloud

Funnel cloud in Chappell Hill near Brenham off Hwy 290.

### Fort Bend County

10 W Rosenberg

01

1525CST

0

0

Funnel Cloud

Funnel cloud along Hwy 90 between Rosenberg and East Bernard.

### Harris County

5 NW Hockley

01

1605CST

0

0

Funnel Cloud

Funnel cloud reported at Hwy 290 and FM 2920.

### Harris County

Jersey Village

01

1605CST

0

0

Funnel Cloud

Funnel cloud reported near Jersey Village.

### Harris County

Katy

01

1605CST

0

0

Funnel Cloud

Funnel cloud reported near Katy.

### Harris County

Houston

01

1710CST

0

0

Funnel Cloud

Funnel cloud reported at intersection of Westheimer and Addicks.

### Harris County

4 NW Missouri City

01

1755CST

0

0

Funnel Cloud

Two funnel clouds reported outside of Missouri City.

### Walker County

2 SW Crabbs Prairie

02

0530CST

0

0

3K

Flash Flood

0655CST

Water flowing over FM 2550 1 mile south of FM 1696. High water in and around Huntsville.

### Brazoria County

Lake Jackson

04

1416CST

0

0

10K

Flash Flood

1605CST

Bumper-high street flooding. Water threatening homes in the Winding Woods subdivision.

### Harris County

Jersey Village

04

1651CST

0.2

30

0

0

Tornado (F0)

Tornado in Eldridge Parkway near Jersey Village. No damage reported.

### Galveston County

Crystal Beach

10

1540CST

1

1

Lightning

Two men struck by lightning, one fatality.

M?OT

### Fort Bend County

7 N Rosenberg

11

1320CST

1

0

Lightning

Lightning strike, 1 fatality. Landscaper sought refuge under tree near the Pecan Grove subdivision.

M36UT

### Fort Bend County

Needville

12

0118CST

0

0

2K

Thunderstorm Wind (G57)

Strong wind gusts downed some trees.

## Storm Data and Unusual Weather Phenomena

Time Local/	Path Length	Path Width	Number of Persons	Estimated Damage
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Location	Date	Standard	(Miles)	(Yards)	Killed	Injured	Property	Crops	Character of Storm
<b><u>TEXAS, Central Southeast</u></b>									
<b>Matagorda County</b>									
Wadsworth	14	1325CST			0	0			Funnel Cloud
Funnel cloud reported near the intersection of FM 521 and Hwy 60.									
<b><u>TEXAS, Extreme West</u></b>									
NONE REPORTED.									
<b><u>TEXAS, Mid - South</u></b>									
<b>Bee County</b>									
2 NE Tynan	09	1350CST			0	0			Thunderstorm Wind (G50)
15 power poles blown down along Highway 359. Dime size hail was also reported.									
<b>Live Oak County</b>									
Oakville	11	1930CST 2100CST			0	0			Flash Flood
A nearly stationary thunderstorm produced localized 6 to 8 inches of rain in 3 hours near Oakville along Interstate 37. The frontage road of I-37 around Sulphur Creek. had water over the road.									
<b>San Patricio County</b>									
Ingleside	12	0312CST			0	0			Thunderstorm Wind (G72)
Damage was done to a crane on a barge along the Intracoastal Waterway. See Gulf of Mexico Marine Zone 230 above for more information.									
<b>San Patricio County</b>									
Mathis	12	0345CST 0530CST			0	0			Flash Flood
Water over the road along S.R. 188 off of I-37. In addition San Patricio Sheriff's office reported 26 in Mathis had water over the road. Several other roads through the county were reported as having minor flooding, but passable.									
<b>Nueces County</b>									
Corpus Christi	12	0400CST 0600CST			0	0			Flash Flood
Corpus Christi Police Depatment reported water covering I-37, 1 mile west of Highway 358. In addition several city streets had water covering portions of the roadway.									
<b>Nueces County</b>									
Port Aransas	12	0400CST 0500CST			0	0			Thunderstorm Wind (G60)
A small security building to a condominium complex received major damage. Minor roof damage also occurred at an apartment complex, several homes and a nightclub. Power lines were also blown down.									
A squall line moved out of South-Central Texas and into the Coastal Bend and Rio Grande Plains during the early morning hours of the 12th. A rear inflow jet descended across eastern San Patricio and Nueces counties producing a bow echo right at the coastline and resulting in damaging surface winds around Ingleside and Port Aransas. In addition very heavy rainfall fell across San Patricio and Nueces counties. 4.69 inches of rain fell at the Corpus Christi International Airport during the morning, setting a new record for daily rainfall on that date. The squall line continued into the Gulf of Mexico producing wind gusts up to 77 mph at the RTNS platform.									
<b>San Patricio County</b>									
1 NW Gregory	14	0913CST			0	0			Funnel Cloud
<b>San Patricio County</b>									
1 S Edroy	14	0937CST	0.3	30	0	0			Tornado (F0)
NWS Storm Survey concluded a F0 tornado briefly touched down just south of Edroy, knocked down several power poles and damaged a 500-foot long tin cattle shade as it moved northwest.									
<b>Nueces County</b>									
Corpus Christi	17	1620CST 1745CST			0	0			Flash Flood
Very heavy rainfall over city of Corpus Christi produced water over the road at Rand Morgan Road and also near the West Campus Del Mar College. Minor, nuisance street flooding occurred across numerous other city streets.									
<b>Bee County</b>									
Central Portion	18	1335CST 1530CST			0	0			Flash Flood
Heavy rainfall fell across Central Bee county producing flash flooding along Hwy 59, 888 and 202 near Beeville.									
<b>Goliad County</b>									
North Central Portion	18	1340CST 1530CST			0	0			Flash Flood
Heavy rainfall across Goliad County produced flash flooding along Hwy 1726 and along Hwy 622.									

## Storm Data and Unusual Weather Phenomena

Time Local/	Path Length	Path Width	Number of Persons	Estimated Damage
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Location	Date	Standard	(Miles)	(Yards)	Killed	Injured	Property	Crops	Character of Storm
<b>TEXAS, Mid - South</b>									
<b>Refugio County</b>									
<b>Refugio</b>	<b>18</b>	<b>1340CST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
		<b>1500CST</b>							
	Heavy rainfall resulted in several streets flooded in the city of Refugio.								
<b>San Patricio County</b>									
<b>Aransas Pass</b>	<b>18</b>	<b>1520CST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
		<b>1730CST</b>							
	Heavy rainfall produced widespread street flooding in Aransas Pass.								
<b>Nueces County</b>									
<b>Countywide</b>	<b>18</b>	<b>1532CST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
		<b>1800CST</b>							
	Heavy rainfall produced widepread street flooding in Corpus Christi. Very heay rainfall fell in southern Nueces County in the city of Bishop. 4 to 5 inches of rainfall were reported in Bishop.								
<b>Kleberg County</b>									
<b>Central Portion</b>	<b>18</b>	<b>1636CST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
		<b>1730CST</b>							
	Flooding along FM 772 and East CR 1040.								
<b>TXZ232</b>									
	<b>Bee</b>								
	<b>18</b>	<b>1700CST</b>			<b>0</b>	<b>0</b>			<b>Flood</b>
	<b>19</b>	<b>0215CST</b>							
	Heavy rainfall on the 17th through the 19th led to river flooding: The Aransas River near Skidmore crested at 16.94 feet on the 19th. (flood stage 13 feet)								
<b>TXZ234</b>									
	<b>Victoria</b>								
	<b>19</b>	<b>0330CST</b>			<b>0</b>	<b>0</b>			<b>Flood</b>
	<b>21</b>	<b>2115CST</b>							
	Heavy rainfall over South Texas on the 17th through the 19th led to river flooding. The Guadalupe River at Dupont crested at 20.99 feet on the 19th. (flood stage 20 feet)								
<b>TXZ243</b>									
	<b>Nueces</b>								
	<b>19</b>	<b>0545CST</b>			<b>0</b>	<b>0</b>			<b>Flood</b>
	<b>25</b>	<b>0945CST</b>							
	Heavy rainfall over South Texas on the 17th through the 19th led to river flooding. The Nueces River at Bluntzer crested at 24.19 feet on the 23rd. (flood stage 18 feet)								
<b>TXZ231</b>									
	<b>Live Oak</b>								
	<b>20</b>	<b>0000CST</b>			<b>0</b>	<b>0</b>			<b>Flood</b>
	<b>21</b>	<b>1700CST</b>							
	Heavy rainfall over South Texas on the 17th through the 19th led to river flooding. The Atascosa River near Whitsett crested at 26.40 feet on the 21st. (flood stage 20 feet)								
<b>TXZ243</b>									
	<b>Nueces</b>								
	<b>23</b>	<b>0545CST</b>			<b>0</b>	<b>0</b>			<b>Flood</b>
	<b>25</b>	<b>2015CST</b>							
	Heavy rainfall over South Texas on the 17th through the 19th led to river flooding. The Nueces River at Calallen crested at 7.27 feet on the 25th. (flood stage 7 feet)								
<b>TEXAS, North</b>									
<b>Leon County</b>									
<b>7 S Buffalo</b>	<b>04</b>	<b>1920CST</b>			<b>0</b>	<b>0</b>			<b>Thunderstorm Wind (G52)</b>
<b>Young County</b>									
<b>Graham</b>	<b>11</b>	<b>0744CST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
		<b>1044CST</b>							
	Rainfal up to 4.12 inches resulted in street flooding across Graham.l								
<b>Jack County</b>									
<b>Jacksboro</b>	<b>11</b>	<b>1024CST</b>			<b>0</b>	<b>0</b>			<b>Heavy Rain</b>
		<b>1324CST</b>							
	Heavy rains of up to 4 inches caused minor street flooding in town, closing some streets for a few hours.								
<b>Parker County</b>									
<b>Peaster</b>	<b>11</b>	<b>1237CST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
		<b>1537CST</b>							
	Flash flooding occurred at Highway 920 and Dry Creek.								
<b>Tarrant County</b>									
<b>North Richland Hills</b>	<b>11</b>	<b>1305CST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
		<b>1405CST</b>							
	Intersection of Precinct Line Road and Kirk Street barricaded.								
<b>Parker County</b>									
<b>Millsap</b>	<b>11</b>	<b>1315CST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
		<b>1415CST</b>							
	Flash flooding reported by a mail courier.								

# Storm Data and Unusual Weather Phenomena

September 2003

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## TEXAS, North

### Tarrant County

#### Ft Worth

11	1505CST 1605CST				0	0			Flash Flood
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There was a high water rescue in south Ft. Worth.

### Dallas County

#### Dallas

18	1554CST 1654CST				0	0			Flash Flood
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Interstate 635 closed at Interstate 75 due to flooding in North Dallas.

### McLennan County

#### China Spg

18	1711CST 1811CST				0	0			Flash Flood
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The DPS reported flash flooding.

### Tarrant County

#### Ft Worth

18	1847CST 1947CST				0	0			Flash Flood
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Water was reported one foot deep on Hulen Street in southwest Ft. Worth.

### Tarrant County

#### Mansfield

18	1900CST 2200CST				0	0	10K		Flash Flood
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4.7 inches fell in three hours causing flooding in low lying areas and closing some streets.

### Hamilton County

#### Hico

18	1925CST 2025CST				0	0			Flash Flood
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Sheriff's office reported four to five inches of rain with flooding in Hico, and on FM 1602 near Highway 281.

### Hood County

#### Granbury

18	2000CST 2300CST				0	0	15K		Flash Flood
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Numerous roads were closed as heavy rain up to 5.75 inches fell across the county.

### Hood County

#### Tolar

18	2106CST 2206CST				0	0	10K		Flash Flood
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Several homes were flooded in Tolar.

## TEXAS, North Panhandle

### Hartley County

#### 2 E Channing

07	1530CST				0	0			Hail (1.00)
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### Moore County

#### 2 W Four Way

07	1600CST				0	0			Hail (1.00)
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### Moore County

#### 3 S Bautista Station

07	1635CST 1800CST				0	0			Flash Flood
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Extensive flooding reported on State Highway 354 and Farm to Market Road 2202.

### Moore County

#### Dumas

07	2031CST 2200CST				0	0			Flash Flood
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Flash flooding reported in the town of Dumas on the east side.

Severe thunderstorms produced hail and flash flooding across the central sections of the Texas panhandle during the early evening hours. Severe thunderstorms also produced hail across the northwestern Texas panhandle during the late afternoon hours.

### Hartley County

#### 1 S Channing

09	1520CST				0	0			Hail (1.00)
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### Hartley County

#### Channing

09	1520CST				0	0			Hail (0.75)
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### Hartley County

#### Channing

09	1530CST				0	0			Hail (0.75)
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### Hartley County

#### Channing

09	1531CST				0	0			Hail (0.75)
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### Hartley County

#### 2 N Channing

09	1545CST				0	0			Hail (0.88)
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# Storm Data and Unusual Weather Phenomena

September 2003

September 2003									
Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
TEXAS, North Panhandle									
Hartley County 5 SE Dalhart	09	1625CST			0	0			Hail (1.00)
Oldham County Vega	09	1629CST			0	0			Hail (0.88)
Oldham County Vega	09	1640CST			0	0			Hail (0.75)
Hartley County Channing	09	1700CST			0	0			Hail (0.88)
Hartley County 1 S Channing	09	1719CST 1745CST			0	0	5K		Thunderstorm Wind (G52)
An electrical transmission line was reported blown down by the high winds causing two hundred and seventy-two homes in the town of Channing to be without power.									
Hartley County Channing	09	1725CST			0	0			Hail (1.00)
Hartley County Channing	09	1730CST			0	0			Hail (1.75)
Hartley County Channing	09	1730CST			0	0			Thunderstorm Wind (G52)
Hartley County 2 E Channing	09	1800CST 1900CST			0	0	15K		Flash Flood
Extensive flooding to fields reported along State Highway 354.									
Oldham County 3 SE Boys Ranch	09	1830CST 1930CST			0	0			Flash Flood
Extensive flooding of bar ditches three to four feet deep along Farm to Market Road 1061.									
Hartley County (Dht)Dalhart Muni Ar	09	2022CST			0	0			Thunderstorm Wind (G54)
Hartley County 2 E Channing	09	2032CST			0	0			Hail (1.00)
Hartley County 2 E Channing	09	2032CST			0	0			Thunderstorm Wind (G52)
Severe thunderstorms plagued the western and northwestern sections of the Texas panhandle with large hail...damaging winds and flash flooding from the late afternoon hours until into the evening hours.									
Lipscomb County Booker	10	1543CST			0	0			Hail (0.88)
Ochiltree County 8 NE Twichell	10	1545CST			0	0			Thunderstorm Wind (G52)
Ochiltree County 8 NE Twichell	10	1640CST			0	0			Hail (0.75)
Wheeler County 7 E Kellerville	10	1755CST			0	0			Hail (0.88)
Collingsworth County 2 W Dozier	10	1840CST			0	0			Thunderstorm Wind (G56)
Trees were reported blown over by the high winds.									
Collingsworth County 7 NW Dozier	10	1846CST			0	0			Hail (1.00)

## Storm Data and Unusual Weather Phenomena

Time Local/	Path Length	Path Width	Number of Persons	Estimated Damage
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Location	Date	Standard	(Miles)	(Yards)	Killed	Injured	Property	Crops	Character of Storm
<b><u>TEXAS, North Panhandle</u></b>									
<b>Wheeler County</b> 2 S Lela	10	1846CST			0	0			Hail (1.00)
<b>Donley County</b> 3 SW Howardwick	10	2050CST			0	0			Hail (0.75)
<b>Wheeler County</b> Twitty	10	2115CST 2215CST			0	0			Flash Flood
Water was reported over the roadway along U.S. Highway 83.									
<b>Gray County</b> 8 W Mc Lean	10 11	2121CST 0200CST			0	0			Flash Flood
Flash flooding of the underpass was reported of Interstate 40 at mile marker 136.									
<b>Wheeler County</b> Shamrock	10 11	2300CST 0200CST			0	0			Flash Flood
Flash flooding reported in the town of Shamrock where a two mile stretch of U.S. Highway 66 was underwater and numerous streets were completely underwater.									
<b>Donley County</b> Clarendon	10 11	2355CST 0300CST			0	0			Flash Flood
Water was reported covering U.S. Highway 287 in the town of Clarendon. Severe thunderstorms produced large hail...high winds...and flash flooding across the eastern sections of the Texas panhandle during the afternoon and into the overnight hours. Except for some trees blown down by the high winds over the extreme southeastern Texas panhandle...no damage was reported. Also...no injuries were reported.									
<b><u>TEXAS, Northeast</u></b>									
NONE REPORTED.									
<b><u>TEXAS, South</u></b>									
NOT RECEIVED.									
<b><u>TEXAS, South Central</u></b>									
<b>Atascosa County</b> South Portion	02	0730CST 0900CST			0	0	5K		Flash Flood
Following showers that fell generally across South Central Texas on September 1, additional storms developed on the morning of September 2 from Charlotte to Campbellton to Fashing. Rainfall over the southern part of Atascosa County varied from 1 to 2 inches, with isolated totals to near 4 inches. Damage was limited to roads near low water crossings.									
<b>Lavaca County</b> North Portion	02	0800CST 1000CST			0	0	5K		Flash Flood
Rainfall on September 1 had already saturated the soils over Lavaca and DeWitt Counties. Widespread showers and thunderstorms redeveloped on the morning of September 2, producing an additional 1 to 2 inches of rain, with isolated totals to 4 inches, across the northern parts of DeWitt and Lavaca Counties north of a line from Yorktown to Cuero to Yoakum to Shiner to Hallettsville. Damage was limited to roads near low water crossings.									
<b>De Witt County</b> North Portion	02	0815CST 0945CST			0	0	5K		Flash Flood
Rainfall on September 1 had already saturated the soils over Lavaca and DeWitt Counties. Widespread showers and thunderstorms redeveloped on the morning of September 2, producing an additional 1 to 2 inches of rain, with isolated totals to 4 inches, across the northern parts of DeWitt and Lavaca Counties north of a line from Yorktown to Cuero to Yoakum to Shiner to Hallettsville. Damage was limited to roads near low water crossings.									
<b>Atascosa County</b> South Portion	03	1130CST 1300CST			0	0	10K		Flash Flood
After the soaking rains of September 1 and 2, soils over Atascosa, DeWitt and Lavaca Counties were generally saturated. As additional rainfall developed in the late morning of September 3, flash flooding developed very quickly and continued into the mid afternoon. This time the heaviest rainfall was over the southern parts of Atascosa and DeWitt Counties and over the western part of Lavaca County, where general 1 inch rainfall was reported with isolated totals to 3 inches in Atascosa and Lavaca Counties and 4 inches in DeWitt County. Flash flooding spread across all of the 3 counties. Damage was reported only to roads and bridges.									

## Storm Data and Unusual Weather Phenomena

Time Lost/ Length	Path	Path Width	Number of Persons	Estimated Damage
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September 2003									
Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed     Injured		Estimated Damage Property     Crops		Character of Storm
<b>TEXAS, South Central</b>									
<b>Lavaca County</b>									
Countywide	03	1230CST 1430CST			0	0	10K		Flash Flood
After the soaking rains of September 1 and 2, soils over Atascosa, DeWitt and Lavaca Counties were generally saturated. As additional rainfall developed in the late morning of September 3, flash flooding developed very quickly and continued into the mid afternoon. This time the heaviest rainfall was over the southern parts of Atascosa and DeWitt Counties and over the western part of Lavaca County, where general 1 inch rainfall was reported with isolated totals to 3 inches in Atascosa and Lavaca Counties and 4 inches in DeWitt County. Flash flooding spread across all of the 3 counties. Damage was reported only to roads and bridges.									
<b>De Witt County</b>									
Countywide	03	1300CST 1500CST			0	0	10K		Flash Flood
After the soaking rains of September 1 and 2, soils over Atascosa, DeWitt and Lavaca Counties were generally saturated. As additional rainfall developed in the late morning of September 3, flash flooding developed very quickly and continued into the mid afternoon. This time the heaviest rainfall was over the southern parts of Atascosa and DeWitt Counties and over the western part of Lavaca County, where general 1 inch rainfall was reported with isolated totals to 3 inches in Atascosa and Lavaca Counties and 4 inches in DeWitt County. Flash flooding spread across all of the 3 counties. Damage was reported only to roads and bridges.									
<b>Bexar County</b>									
Countywide	05	1230CST 1430CST			0	0	100K		Flash Flood
After several days of widespread general showers, soils were generally saturated across South Central Texas. On September 5, additional rainfall developed from the southern part of Bandera County across the Bexar and Atascosa Counties and into the western part of Wilson County. Repeated showers and thunderstorms produced general rainfall over Bexar County of 1 to 2 inches, with isolated totals of up to 4 inches. San Antonio reported numerous road closures and high water rescues from vehicles. Damage was limited to roads, bridges, and vehicles.									
<b>Bandera County</b>									
South Portion	05	1400CST 1630CST			0	0	10K		Flash Flood
After several days of widespread general showers, soils were generally saturated across South Central Texas. On September 5, additional rainfall developed from the southern part of Bandera County across the Bexar and Atascosa Counties and into the western part of Wilson County. Repeated showers and thunderstorms produced general rainfall of 1 to 2 inches over the southern part of the county, with isolated totals of up to 4 inches in the southwest part. Damage was limited to roads and bridges.									
<b>Atascosa County</b>									
Countywide	05	1500CST 1700CST			0	0	10K		Flash Flood
After several days of widespread general showers, soils were generally saturated across South Central Texas. On September 5, additional rainfall developed from the southern part of Bandera County across the Bexar and Atascosa Counties and into the western part of Wilson County. Repeated showers and thunderstorms produced general rainfall over county of around 1 inch, with isolated totals of up to 4 inches in the south part of the county. Damage was limited to roads and bridges.									
<b>Wilson County</b>									
West Portion	05	1530CST 1700CST			0	0	10K		Flash Flood
After several days of widespread general showers, soils were generally saturated across South Central Texas. On September 5, additional rainfall developed from the southern part of Bandera County across the Bexar and Atascosa Counties and into the western part of Wilson County. Repeated showers and thunderstorms produced general rainfall around 1 inch in the western part of the county, with isolated totals of up to 4 inches. Damage was limited to roads and bridges.									
<b>Llano County</b>									
3 W Buchanan Dam	11	1635CST 1655CST			0	0	50K		Thunderstorm Wind (G60)
Severe thunderstorms winds estimated at 60 knots blew down power lines in eastern Llano County.									
<b>Llano County</b>									
East Portion	11	1700CST 1900CST			0	0	3K		Flash Flood
Late on September 11, in advance of an upper level disturbance approaching from the west, a line of thunderstorms formed west of Llano and moved through the county. Storms produced a general 1 to 2 inch rainfall with isolated totals to near 4 inches northwest of Llano. Lower Colorado River Authority personnel reported creeks out of banks in the eastern part of the county as a result of the heavy rainfall.									
<b>Hays County</b>									
South Portion	11	2130CST 2230CST			0	0	3K		Flash Flood
Late on September 11, the line of showers and thunderstorms that had formed over the Hill Country moved into the IH35 corridor. Heavy rain fell briefly from the southern part of Hays County across much of Comal County. The storm line produced a countywide 1 inch rain, with 2 inches near San Marcos. Brief flash flooding was reported in San Marcos with damage limited to streets and roads.									



# Storm Data and Unusual Weather Phenomena

September 2003

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## TEXAS, South Central

### Comal County

#### East Portion

11 2200CST 0 0 5K Flash Flood  
2300CST

Late on September 11, the line of showers and thunderstorms that had formed over the Hill Country moved into the IH35 corridor. Heavy rain fell briefly from the southern part of Hays County across much of Comal County. The line of storms produced a general inch rainfall, with 3 inches just west of New Braunfels. Brief flash flooding was reported across New Braunfels as streets became flooded and barricades were put up across the low water crossings. Damage was reported to streets and roads.

### Val Verde County

#### Del Rio

11 2212CST 0 0 20K Thunderstorm Wind (G60)  
2230CST

The Val Verde County Sheriff's Department reported power lines blown down by severe thunderstorm winds estimated at 60 knots in the southern part of Del Rio.

## TEXAS, South Panhandle

### TXZ021>044

Parmer - Castro - Swisher - Briscoe - Hall - Childress - Bailey - Lamb - Hale - Floyd - Motley - Cottle - Cochran -  
Hockley - Lubbock - Crosby - Dickens - King - Yoakum - Terry - Lynn - Garza - Kent - Stonewall

01 0000CST 0 0 Drought  
30 2300CST

The long-term drought that redeveloped across the South Plains, extreme southern Panhandle, and Rolling Plains in July continued through September. A few areas received beneficial rainfall from isolated thunderstorms that developed during the month but on average the region experienced another abnormally dry month. The NWS cooperative observing stations across the South Plains region measured average rainfall amounts that were almost two inches below normal for the month. Thus, dry soil moisture conditions persisted through September and crops, especially the dryland crops, continued to suffer.

More details, including rough estimates of crop damage, will be included in later months after the extent of the drought is better determined.

### Hockley County

#### 3 W Whitharral

07 1640CST 0 0 150K Hail (1.00)

### Hockley County

#### 1 E Sundown to 2 E Sundown

07 1725CST 0 0 1.5M Hail (2.50)  
1730CST

Hail up to tennis ball size severely damaged nearly 8000 acres of cotton and 1000 acres of peanuts.

### Hockley County

#### 1 E Sundown to 2 E Sundown

07 1725CST 0 0 200K Thunderstorm Wind (G70)

Strong thunderstorm wind estimated at around 80 mph caused major damage to the roof of a petroleum plant.

### Hockley County

#### Sundown

07 1800CST 0 0 25K Thunderstorm Wind (G57)

Strong thunderstorm wind blew down power lines and snapped power poles on Farm-to-Market Road 301 near town. A roof of a building at the golf course was damaged.

### Bailey County

#### Needmore

07 1832CST 0 0 100K 1M Hail (2.75)

Storm spotters affiliated with the Muleshoe PD reported baseball size hail.

### Terry County

#### Brownfield

07 1850CST 0 0 Thunderstorm Wind (G61)

Strong thunderstorm wind caused roof damage and blew down power lines in town.

### Lynn County

#### New Moore

07 1930CST 0 0 75K 1M Hail (1.75)

Golfball size hail damaged vehicles and destroyed crops.

### Terry County

#### Brownfield

07 2053CST 0 0 4M Hail (1.75)

Hail up to golfball size severely damaged an estimated 30,000 acres of cotton.

### Yoakum County

#### 8 E Plains

09 1619CST 0 0 100K Hail (1.00)

### Yoakum County

#### 8 E Plains

09 1625CST 0 0 250K Hail (1.75)

The Yoakum County Sheriff's Office reported golfball size hail.

## Storm Data and Unusual Weather Phenomena

Time Lost/ Length	Path	Path Width	Number of Persons	Estimated Damage
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September 2003									
Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed    Injured		Estimated Damage Property    Crops		Character of Storm
<b><u>TEXAS, South Panhandle</u></b>									
<b>Terry County</b> Tokio	09	1627CST			0	0	350K		Hail (1.00)
Hail destroyed an estimated 2500 acres of cotton in western Terry County.									
<b>Terry County</b> 12 W Brownfield	09	1655CST			0	0	200K		Hail (1.00)
<b>Terry County</b> 7 N Wellman	09	1708CST			0	0	150K		Hail (0.88)
<b><u>TEXAS, Southeast</u></b>									
<b>Jefferson County</b> Countywide	12	0700CST 1100CST			0	0	25K		Flash Flood
<b>Orange County</b> Countywide	12	0700CST 1100CST			0	0	25K		Flash Flood
As much as six to seven inches of rain fell in less than six hours, resulting in flooding of area roads in Jefferson and Orange Counties. Bridge City and Vidor were among the locations in Orange County where roads were closed off due to floodwaters.									
<b><u>TEXAS, West</u></b>									
<b>Andrews County</b> 6 E Andrews	07	1610CST			0	0	0	0	Hail (0.75)
Reported on State Route 176.									
<b>Andrews County</b> 7 E Andrews to 9 E Andrews	07	1610CST 1615CST			0	0	20K	0	Thunderstorm Wind (G65)
At least five power poles were blown down by severe thunderstorm winds along State Route 176 near the intersection of Farm to Market Road 1788.									
The first of four supercell thunderstorms to affect the northern Permian Basin during the evening of the 7th and the early morning hours of the 8th developed over Andrews County. This storm resulted in large hail and damaging thunderstorm winds. The storm then propagated southeast across unpopulated areas of southwest Martin County, and eventually across Midland (including the city of Midland proper) and northern Upton Counties.									
<b>Midland County</b> Midland to 5 SE Midland	07	1705CST 1754CST			0	0	5K	0	Thunderstorm Wind (G57)
Severe thunderstorm wind gusts estimated at 65 MPH affected the Midland vicinity. Multiple reports of similar winds were received. These winds destroyed a storage shed along Highway 158 southeast of the city.									
<b>Midland County</b> Midland to 5 SE Midland	07	1715CST 1748CST			0	0	0	0	Hail (1.00)
Multiple reports of penny to quarter size hail were received from the Midland vicinity.									
<b>Midland County</b> Midland	07	1735CST 1900CST			0	0	15K	0	Flash Flood
Reports indicated several cars stalled in flash flood waters on Loop 250 at Fairgrounds Road. No injuries were reported.									
<b>Midland County</b> Greenwood	07	1750CST 1930CST			0	0	0	0	Flash Flood
Local officials reported flash flooding that resulted in high water covering city streets in Greenwood.									
<b>Midland County</b> Greenwood	07	1750CST			0	0	0	0	Hail (1.00)
<b>Upton County</b> Midkiff	07	1930CST			0	0	8K	0	Thunderstorm Wind (G61)
Thunderstorm winds blew large trees and power lines down in the city of Midkiff.									

## Storm Data and Unusual Weather Phenomena

Time Lost/ Length	Path	Path Width	Number of Persons	Estimated Damage
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Location	Date	Standard	(Miles)	(Yards)	Killed	Injured	Property	Crops	Character of Storm
<b>TEXAS, West</b>									
<b>Dawson County</b>									
14 NNE Lamesa to 5 ENE Arvana	07	2020CST 2050CST			0	0	250K	3.7M	Hail (1.75)
The second supercell thunderstorm to affect the Permian Basin this day resulted in a swath of large hail that damaged property and destroyed cotton and sorghum crops across northeast Dawson County. Hailstones ranging in size from pennies to golfballs fell along U.S. Highway 87 north-northeast of Lamesa. Large hail covered the ground northeast and east of Arvana, also ranging in size from pennies to golfballs. NWS meteorologists interviewed local residents the following day. Several residents indicated the hail fell at their locations for up to twenty minutes. The combination of damage surveys and interviews with local agricultural officials indicated over 3.7 million dollars worth of damage to cotton and surghum crops. In addition, house roofs, vehicles, and windows were damaged by the hail.									
<b>Dawson County</b>									
2 E Arvana	07	2023CST			0	0	0	0	Hail (2.75)
Baseball size hail was reported along Farm to Market Road 2411 east of Arvana. This very large hail was observed in association with the destructive hail swath listed above. Damage estimates indicated in the previous listing reflect those associated with this report in addition to the numerous reports of relatively smaller hail along entire the damage path.									
<b>Dawson County</b>									
East Portion	07 08	2114CST 0200CST			0	0	15K	0	Flash Flood
High water resulting from flash flooding was widespread across eastern Dawson County late on the 7th and into the early morning hours of the 8th. As the supercell storm tracked southeast across the area, vehicles were stalled in high water on U.S. Highway 87 twelve miles north of Lamesa. Farm to Market Road 178 was also impassable three miles north of Key.									
<b>Dawson County</b>									
2 NE Sand to 6 S Sand	07	2200CST 2235CST			0	0	150K	1.9M	Hail (1.75)
The evening's third supercell to affect the northern Permian Basin (the second supercell in Dawson County) resulted in up to golfball size hail that broke windows, caused roof damage, and damaged vehicles at rural residences in the vicinity of Sand. This storm also resulted in the destruction of local cotton and surgham crops. Post storm surveys and interviews suggest an additional 1.9 million dollars worth of agricultural damage occurred. Several area residents reported the duration of large hail at their locations to range from twenty-five to thirty minutes.									
<b>Dawson County</b>									
Sand	07 08	2230CST 0300CST			0	0	0	0	Flash Flood
The supercell thunderstorm over western Dawson County resulted in flash flooding. U.S. Highway 180 was closed west of Lamesa due to flowing high water. In addition, many rural roads near Sand were impassable. No injuries were reported.									
<b>Martin County</b>									
13 NW Tarzan	07	2235CST			0	0	0	0	Hail (1.75)
As the evening's third supercell storm propagated south-southeast out of Dawson County and into northern Martin County, large hail up to the size of golfballs covered Highway 349. The Texas Department of Transportation temporarily closed a section of the highway due to drifted hail.									
<b>Gaines County</b>									
20 SE Seminole	07	2350CST 2355CST			0	0	0	0	Hail (0.75)
The fourth supercell thunderstorm to develop over the northern Permian Basin this evening initiated over eastern Gaines County. This storm resulted in penny size hail over rural parts of the county southeast of Seminole before moving into Andrews County.									
<b>Andrews County</b>									
16 E Andrews to 20 E Andrews	08	0020CST 0035CST			0	0	75K	0	Thunderstorm Wind (G70)
Severe thunderstorm winds blew down at least 15 power poles along Highway 176 east of Andrews to near the Martin County line as the supercell storm moved across eastern Andrews County.									
<b>Andrews County</b>									
20 E Andrews	08	0025CST 0035CST			0	0	0	0	Hail (1.00)
Large hailstones ranging in size from dimes to quarters covered the ground and stripped the leaves from trees at a rural residence on the Andrews/Martin County line just off of Highway 176.									
<b>Martin County</b>									
13 W Tarzan	08	0025CST 0035CST			0	0	0	0	Hail (1.00)
Large hailstones ranging in size from dimes to quarters covered the ground and stripped the leaves from trees at a rural residence on the Andrews/Martin County line just off of Highway 176.									

## Storm Data and Unusual Weather Phenomena

Time Local/	Path Length	Path Width	Number of Persons	Estimated Damage
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Date	Standard	(Miles)	(Yards)	Killed	Injured	Property	Crops	Character of Storm
<b>TEXAS, West</b>								
<b>Martin County</b>								
15 SW Tarzan	08	0050CST 0051CST	0.2	100	0	0	0	Tornado (F0)
As the supercell storm moved from eastern Andrews County into western Martin County a local television meteorologist who was in the field storm spotting, and a WFO Midland staff meteorologist who was looking north from the office, observed a tornado. The tornado was located in rural areas of southwest Martin County, approximately three miles west of Highway 349 and eight miles south-southwest of the intersection of Highways 349 and 176.								
<b>Martin County</b>								
12 SW Tarzan	08	0104CST			0	0	0	Hail (1.75)
Hail to the size of golfballs accumulated three feet deep on Highway 349. The Texas Department of Transportation in Martin County was called out for the second time this night to close parts of that highway due to hail. Parts of Highway 349 remained closed due to high hail drifts for at least nine hours.								
<b>Martin County</b>								
13 W Tarzan to 13 SW Tarzan	08	0105CST 0110CST			0	0	120K	Thunderstorm Wind (G78)
The storm which produced the tornado quickly evolved from a classic supercell structure to a high precipitation supercell as the occlusion process occurred. This transition resulted in a broad swath of very strong and damaging southwest to west winds which crossed Highway 349. The most intense damage occurred along the stretch of Highway 349 from the intersection with 176 to about 6 miles south of that intersection. This damage correlated with a strong low level divergent pattern in radar velocity products, indicative of an intense downburst in the forward flank downdraft of the storm. These winds blew down numerous power poles (up to twenty-five) from the intersection of Highways 349 and 176, south to ten miles south of that intersection. One metal light pole, which was snapped at the base, was rated to withstand 80 MPH winds.								
A series of four supercell thunderstorms moved southeast across the northern Permian Basin during the late afternoon and evening of the 7th, and the early morning hours of the 8th. These storm produced devastating large hail, damaging winds, flash flooding, and a tornado. In addition to property damage, large hail resulted in the widespread destruction of area agricultural crops.								
<b>Midland County</b>								
20 S Midland	08	1910CST			0	0	0	Hail (0.75)
Reported on Highway 349.								
<b>Midland County</b>								
15 S Midland	08	1930CST 2045CST			0	0	0	Flash Flood
Law enforcement officials reported high water flowing across Highway 349 and other rural roadways in southern Midland County. An isolated supercell storm developed over southern Midland County and moved south into northern Upton County during the evening hours of the 8th. This storm developed near the intersection of an outflow boundary and a dryline. The storm initially split, with the northern (left moving) member weakening and the southern (right moving) cell becoming severe with large hail and flash flooding. The storm remained over sparsely populated areas, and documented reports are not likely representative of the storm's severity.								
<b>Pecos County</b>								
24 SSW Bakersfield	10	1625CST			0	0	0	Thunderstorm Wind (G57)
Large limbs measuring "several inches" in diameter were broken off of trees at a rural residence in far southeast Pecos County by severe thunderstorm winds.								
<b>Scurry County</b>								
2 W Knapp	10	1937CST 1950CST			0	0	10K	250K Hail (2.75)
Two reports were received of baseball size hail along Farm to Market Road 1610 west of Knapp. The local newspaper editor reported windows knocked out of rural homes by the large hail stones. Several second hand reports of crop damage were received, but local authorities said the damage was very isolated in nature. Roof and vehicle damage also resulted.								
<b>Mitchell County</b>								
Colorado City to 4 WSW Colorado City	10	1955CST 2007CST			0	0	0	Hail (1.75)
Golfball hail was reported in the Colorado City vicinity.								
Severe thunderstorms resulted in very large hail and damaging winds across parts of West Texas during the afternoon and evening of the 10th. The hardest hit areas included the northeast Permian Basin, where hail as large as baseballs was reported. Despite multiple reports of very large hail, no reports of significant damage to property or agricultural crops were reported.								
<b>Jeff Davis County</b>								
9 NW Ft Davis	11	1745CST 1750CST			0	0	0	Thunderstorm Wind (G74)
Severe thunderstorm wind gusts were recorded by an automated observing system at the McDonald Observatory on Mount Locke. A gust of 85 MPH was recorded at 1745 CST and a gust of 82 MPH was recorded at 1750 CST. The observatory staff reported no damage from the storm which was also accompanied by large hail.								

## Storm Data and Unusual Weather Phenomena

Time Lost/ Length	Path	Path Width	Number of Persons	Estimated Damage
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Location	Date	Standard	(Miles)	(Yards)	Killed	Injured	Property	Crops	Character of Storm
<b>TEXAS, West</b>									
<b>Jeff Davis County</b> <b>9 NW Ft Davis</b>	<b>11</b>	<b>1750CST</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>Hail (1.00)</b>
	Penny to quarter size hail covered the ground at the McDonald Observatory on Mount Locke.								
<b>Jeff Davis County</b> <b>Ft Davis</b>	<b>11</b>	<b>1801CST</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>Hail (1.75)</b>
	Large hail ranging from quarter to golfball size covered the ground in Fort Davis.								
<b>Brewster County</b> <b>5 ENE Alpine to</b> <b>7 ENE Alpine</b>	<b>11</b>	<b>1834CST</b> <b>1842CST</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>Hail (1.75)</b>
	Nickel to golfball size hail was reported near the intersection of Highways 67 and 90.								
	Severe thunderstorms developed in the vicinity of the Davis Mountains on the 11th. A few storms became severe resulting in very strong thunderstorm winds over 80 MPH and large hail up to the size of golfballs. No significant damage was reported.								
<b>Upton County</b> <b>1 E Midkiff</b>	<b>13</b> <b>14</b>	<b>2325CST</b> <b>0130CST</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>Flash Flood</b>
	Law officials reported flash flooding resulting in high water flowing over Farm to Market Road 2401 just east of Midkiff.								
<b>Reagan County</b> <b>10 NW Texon</b>	<b>14</b>	<b>0023CST</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>Hail (1.75)</b>
	Reported at a rural gas plant on the Upton/Reagan County line just off of Farm to Market Road 1555.								
<b>Upton County</b> <b>14 NE Rankin</b>	<b>14</b>	<b>0023CST</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>Hail (1.75)</b>
	Reported at a rural gas plant on the Upton/Reagan County line just off of Farm to Market Road 1555.								
<b>Reagan County</b> <b>20 N Big Lake</b>	<b>14</b>	<b>0030CST</b> <b>0145CST</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>Flash Flood</b>
	Flash flooding resulted in Highway 137 being inundated by high water, resulting in the highway becoming impassable.								
<b>Pecos County</b> <b>6 S Iraan</b>	<b>14</b>	<b>0626CST</b> <b>0945CST</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>Flash Flood</b>
	Law enforcement officials reported up to eight inches of high water flowing over Highway 349 as a result of flash flooding.								
	Severe thunderstorms, including an isolated supercell over Upton and Reagan Counties, developed along and just north of an advancing cold front during the overnight hours and early morning hours of the 13th and 14th. These storms resulted in large hail up to the size of golfballs and flash flooding.								
<b>Pecos County</b> <b>3 N Cayanosa</b>	<b>25</b>	<b>0515CST</b> <b>0730CST</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>Flash Flood</b>
	The intersection of Farm to Market Roads 1776 and 1450 was closed due to high water.								
<b>Midland County</b> <b>Midland</b>	<b>25</b>	<b>0845CST</b> <b>1100CST</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>Flash Flood</b>
	Flash flooding resulted two to three feet of water in some city streets. Motorists reported high water up the hoods of cars. No reports of disabled vehicles were receive, and there were no injuries.								
<b>Upton County</b> <b>North Portion</b>	<b>25</b>	<b>0915CST</b> <b>1130CST</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>Flash Flood</b>
	Heavy rainfall resulted in flash flooding of several highways across the northern parts of Upton County. Highway 329 was closed due to high water nineteen miles northwest of Rankin. High water in Nine Mile Draw flooded Highway 349 nine miles north of Rankin. Flash flooding was also reported in the city streets of Midkiff at 09:55 CST.								
<b>Reagan County</b> <b>36 NW Big Lake</b>	<b>25</b>	<b>1007CST</b> <b>1200CST</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>Flash Flood</b>
	Flash flooding resulted in high water flowing over Farm to Market Road 2401.								
<b>Howard County</b> <b>Big Spring</b>	<b>25</b>	<b>1130CST</b> <b>1330CST</b>			<b>0</b>	<b>0</b>	<b>50K</b>	<b>0</b>	<b>Flash Flood</b>
	Flash flooding in the city streets of Big Spring resulted in a dangerous situation for motorists. Local authorities reported "numerous" vehicles stalled in up to three feet of flowing water in city streets. Rescue workers removed several people from vehicles which were submerged up to the windshields in the flood waters. No injuries were reported.								

# Storm Data and Unusual Weather Phenomena

September 2003

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## TEXAS, West

### **Mitchell County**

Colorado City to  
1 W Colorado City

25 1250CST 1 30 0 0 250K 0 Tornado (F1)

A tornado developed along Farm to Market Road 1983 just west of Colorado City, approximately one half mile south of Interstate Business 20. The tornado initially moved northwest, and produced light damage to two mobile homes along 1983. An eyewitness who observed the tornado during its early stages described the tornado as a tall and narrow vortex which lofted debris approximately 200 feet into the air.

The tornado began moving west along Interstate Business 20. Part of the roof was blown off of the KVCM-KAUM Radio station. The tornado then strengthened as it moved through a rural residential neighborhood immediately south of Business 20. A house west of the radio station lost part of its roof, a car port, and a storage barn. Two campers were destroyed at this residence, with one being deposited southeast of its original location. Utility poles and trees were also damaged.

F1 damage was sustained to the next house along the path to the west. Tornadoic winds damaged the garage door of this well built home on the northeast corner of the structure. After the garage door was compromised, high speed winds (estimated between 90 and 100 MPH) entered the remainder of the structure, and the roof blew off. Large pieces of roof debris knocked down utility poles, damaged large trees, and moved vehicles located downwind of the house. The adjacent house to the west was also sustained damage from flying debris.

A home owner two houses further west observed the the tornado, and fled in his vehicle on Business 20. He observed the dissipation of the debris-filled tornado, and watched as large pieces of roof were deposited on his property causing additional minor damage.

### **Mitchell County**

Colorado City

25 1256CST 1400CST 0 0 0 0 Flash Flood

Local law enforcement officials reported high water flowing in many city streets as a result of flash flooding.

Very moist atmospheric conditions, a cold front, and sufficient upper level dynamics resulted in a broad band of moderate to occasionally heavy rainfall which developed over the Trans Pecos region of West Texas during the morning hours, and moved from southwest to northeast across the Permian Basin throughout the day. Strong convection embedded within the large precipitation shield resulted in flash flooding.

A weak, but damaging, tornado struck near Colorado City during the early afternoon. The tornado developed as a narrow line of non-supercellular thunderstorms formed within the rain shield near the surface cold front.

## TEXAS, Western North

NONE REPORTED.

## UTAH, East

UTZ022>025-027>029

**Southeast Utah - Eastern Uinta Mountains - Eastern Uinta Basin - Tavaputs Plateau - Grand Flat And Arches - La Sal & Abajo Mountains - Canyonlands / Natural Bridges**

01 0000MST 0 0 Drought  
30 2359MST

Precipitation during the first half of the month brought minor drought relief to the extreme southeast portion of Utah. However, extreme to exceptional drought conditions continued across eastern Utah through the month. See the October 2003 Storm Data publication for a continuation on this drought situation.

### **San Juan County**

Blanding

09 1100MST 1530MST 0 0 Heavy Rain

Persistent rainfall over several hours resulted in street flooding and mud flowing onto roads in Blanding. Most of the street flooding occurred between 1430 MST and 1530 MST.

### **San Juan County**

Monticello to  
4 N Monticello

09 1200MST 1300MST 0 0 Heavy Rain

Heavy rains resulted in water up to 6 inches deep to flow across Highway 191.

### **San Juan County**

3 N Monticello to  
4 N Monticello

09 1320MST 1430MST 0 0 Flash Flood

Water over a foot deep flowed across Highway 191 and closed the highway until the waters abated.

UTZ022

**Southeast Utah**

09 1500MST 0 0 10K Strong Wind

Strong winds caused a hay barn to blow down.



# Storm Data and Unusual Weather Phenomena

September 2003

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## VERMONT, North and Central

<b>VTZ006</b>	<b>Lamoille</b>	<b>19</b>	<b>1228EST</b>		<b>0</b>	<b>0</b>	<b>10K</b>		<b>High Wind (G48)</b>
			<b>1800EST</b>						

The remnants of Hurricane Isabel moved across western New York the afternoon of Friday, September 19th and into Canada by evening. Strong winds accompanied this system and were enhanced by the proximity of a strong high pressure system over the Canadian Maritimes. A few trees and power lines were blown down, especially across western portions of the county. A weather spotter reported 55 mph (48 knots) winds in Pleasant Valley at 128 pm EDT (1228 pm EST).

<b>VTZ005</b>	<b>Western Chittenden</b>	<b>19</b>	<b>1440EST</b>		<b>0</b>	<b>0</b>	<b>10K</b>		<b>High Wind (G40)</b>
			<b>2030EST</b>						

The remnants of Hurricane Isabel moved across western New York the afternoon of Friday, September 19th and into Canada by evening. Strong winds accompanied this system and were enhanced by the proximity of a strong high pressure system over the Canadian Maritimes. Trees and power lines were blown down in Essex. At Burlington Airport, winds reached 46 mph or 40 knots.

<b>VTZ002-016</b>	<b>Western Franklin - Eastern Franklin</b>	<b>19</b>	<b>1440EST</b>		<b>0</b>	<b>0</b>	<b>20K</b>		<b>High Wind (G40)</b>
			<b>2100EST</b>						

The remnants of Hurricane Isabel moved across western New York the afternoon of Friday, September 19th and into Canada by evening. Strong winds accompanied this system and were enhanced by the proximity of a strong high pressure system over the Canadian Maritimes. Trees and power lines were blown down across the area with most reports from Enosburg, Fairfield and Fairfax.

<b>Addison County</b>	<b>Countywide</b>	<b>29</b>	<b>1430EST</b>		<b>0</b>	<b>0</b>			<b>Lightning</b>
			<b>1530EST</b>						

<b>Chittenden County</b>	<b>Countywide</b>	<b>29</b>	<b>1430EST</b>		<b>0</b>	<b>0</b>			<b>Lightning</b>
			<b>1530EST</b>						

Thunderstorms formed during the mid and late afternoon hours with pea size hail, frequent cloud to ground lightning and torrential rainfall from Burlington south to Vergennes and moved east across the counties.

## VERMONT, South

NONE REPORTED.

## VIRGIN ISLANDS

<b>St. Croix County</b>	<b>St. Croix</b>	<b>21</b>	<b>1600AST</b>		<b>1</b>	<b>1</b>			<b>Lightning</b>
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Lightning struck and killed one person and injured another at the Gordon Finch Molasses Pier on the south shore while loading a boat onto a trailer. Thunderstorms left several Saint Croix neighborhoods without power. M42IW

## VIRGINIA, East

NOT RECEIVED.

## VIRGINIA, Extreme Southwest

NONE REPORTED.

## VIRGINIA, North

NOT RECEIVED.

## VIRGINIA, Northwest

NONE REPORTED.

## VIRGINIA, Southwest

<b>Lexington (C)</b>	<b>Lexington</b>	<b>02</b>	<b>1515EST</b>		<b>0</b>	<b>0</b>	<b>0</b>		<b>Thunderstorm Wind (G60)</b>
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Thunderstorm winds during the afternoon of the 2nd downed trees in Lexington.



# Storm Data and Unusual Weather Phenomena

September 2003

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## VIRGINIA, Southwest

### Rockbridge County

2.5 NE Rockbridge Bath: 04 0150EST 0 0 Flash Flood  
0400EST

### Rockbridge County

Riverside 04 0300EST 0 0 Flash Flood  
0330EST

Heavy thunderstorm rains during the early morning of the 23rd produced flash flooding.

Heavy thunderstorm rains caused Walker Creek and Hays Creek to flood, 2.5 miles northeast of Rockbridge Baths. Heavy thunderstorm rains also caused flooding along Route 608 in Riverside.

### Pittsylvania County

Blairs 04 1330EST 0 0 15K Thunderstorm Wind (G70)

### Danville (C)

Danville 04 1335EST 0 0 5K Flash Flood  
1515EST

Heavy thunderstorm rains during the afternoon of the 4th produced flash flooding and damaging winds.

Heavy thunderstorm rains caused Apple Branch to flood onto Route 58 in Danville, closing the westbound lane with up to 3 feet of water and caused Sandy Creek to flood and close part of Beavers Mill Road in Danville. An automobile was also submerged in flooding on Riverside Drive in Danville.

Thunderstorm winds flipped a tractor trailer and tore the tin roof off of a barn in Blairs.

### VAZ058

#### Halifax

05 0138EST 0 0 Flood  
06 1430EST

Heavy rainfall on the 4th resulted in minor flooding on the Dan River at South Boston. The Dan River crested a little over 3 feet above flood stage around 1 AM on the 6th at South Boston.

VAZ033-035-043>047- Franklin - Amherst - Henry - Pittsylvania - Campbell - Appomattox - Buckingham - Halifax - Charlotte  
058>059

18 1330EST 0 0 1.8M 1.3M Tropical Storm  
2150EST

As Hurricane Isabel weakened to a tropical storm, winds were sustained during the mid afternoon and early evening at up to 50 to 60 mph with gusts near 70 mph. This produced widespread wind damage with numerous trees and power lines reported down.

In Campbell County, 2 homes were destroyed and 10 homes suffered minor damage. In Amherst County, 1 residence suffered minor damage. In Appomattox County 1 home suffered major damage. In Buckingham County, 1 home was destroyed, 3 homes suffered major damage and 1 business suffered minor damage. In Charlotte County, 2 homes were destroyed, 30 homes suffered major damage, and 5 businesses suffered minor damage. Crop damage was also reported in Charlotte County. In Pittsylvania County, 1 home was destroyed, 20 suffered minor damage, 3 businesses suffered major damage, and crop damage was reported.

VAZ013>014-018>020- Pulaski - Montgomery - Craig - Alleghany - Bath - Roanoke - Botetourt - Rockbridge - Patrick  
022>024-032

18 1900EST 0 0 0 Tropical Storm  
19 0100EST

As Tropical Storm Isabel moved inland, winds sustained at 25 to 50 mph with gusts to near 60 mph during the late afternoon of the 18th through the early morning of the 19th, especially over the higher elevations, resulted in numerous trees and power lines being downed.

### VAZ014-024-035

#### Montgomery - Rockbridge - Amherst

18 2000EST 0 0 650K Flood  
19 0800EST

Flooding along the South River as a result of Hurricane Isabel caused significant damage to property and infrastructure from the northern Rockbridge county border downstream to the South River's confluence with the Maury River. Flooding also occurred in portions of Montgomery and Amherst Counties.

Overall nearly 500 families were impacted. 12 single family dwellings were destroyed or made permanently uninhabitable, and over 60 single family dwellings suffered major damage (having a foot or more of mud in them). In terms of infrastructure, Route 608 which parallels the South River was washed out or undermined in several locations along its length. Three permanent bridges over the South River were destroyed; one, a steel bridge was broken into three pieces - roadbed, and each side, with the three large pieces being carried different distances downstream from its original location. A fourth bridge across the river (abandoned C&O Railroad bridge) about 200 yards upstream from its confluence with the Maury River, now resides at the mouth of the South River, and is embedded in the stream bottom; in a position to collect debris as it floats down the South River. This bridge was part of the scenic "Chessie Trail" which runs from Buena Vista to Lexington. In addition to the damage listed above, 25 to 30 head of livestock were lost in the flood.

# Storm Data and Unusual Weather Phenomena

September 2003

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## VIRGINIA, Southwest

South River communities directly impacted by the flood include: Vesuvius, Marlbrook, Midvale, Cornwall and Mountain View.

In Vesuvius - 20 families were displaced. 2 mobile homes were destroyed, 3 double-wide mobile homes suffered major damage (one washed downstream and wrapped around a tree).

In Marlbrook - 2 large homes had severe damage...moved off foundations. 2 other homes were severely undermined.

Between Marlbrook and Midvale two bridges were lost.

In Midvale - Steel Highway bridge across the River broken up and carried downstream.

In Cornwall - 5 of 7 mobile homes in a small mobile home park were destroyed, the other two had major damage.

In Amherst County the heavy rain produced small stream and urban flooding county wide. Heavy rain also caused significant flooding in near Shawsville in Montgomery County.

### VAZ047-058>059

#### **Buckingham - Halifax - Charlotte**

19	0530EST	0	0						<b>Flood</b>
20	1630EST								

The remnants of hurricane Isabel produced heavy rainfall on the 18th that resulted in minor flooding on the Roanoke River and up to moderate flooding on the James River.

The James River at Brems Bluff crested 7.5 feet above flood stage around 4 PM on the 19th. The Roanoke River at Randolph crested about 2 feet over flood stage around 315 AM on the 20th.

### VAZ019>020

#### **Alleghany - Bath**

19	1400EST	0	0	2.5K					<b>Flood</b>
20	0200EST								

Runoff from the heavy rains of Tropical Storm Isabel produced flooding along the Cowpasture river in Bath and Alleghany counties. In Bath County a foot bridge was washed away in Williamsville at 3:00 PM on the 19th. In Alleghany County a campground 3 miles east of Iron Gate was flooded.

#### **Halifax County**

2 SSW Crystal Hill to 1.5 S Crystal Hill	22	2200EST 2202EST	0.6	30	0	0	2K		<b>Tornado (F0)</b>
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#### **Halifax County**

5 E Halifax	22	2300EST			0	0	10K		<b>Thunderstorm Wind (G60)</b>
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#### **Lynchburg (C)**

Lynchburg	22	2300EST			0	0	10K		<b>Thunderstorm Wind (G60)</b>
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#### **Halifax County**

4 E Halifax to 4.3 ENE Halifax	22	2330EST 2332EST	0.3	30	0	0	2K		<b>Tornado (F1)</b>
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#### **Halifax County**

1 NNW Paces	23	0200EST 0630EST			0	0	0		<b>Flash Flood</b>
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### VAZ043

#### **Henry**

23	0200EST 0430EST	0	0	0					<b>Flood</b>
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#### **Rockbridge County**

Riverside	23	0230EST 0500EST			0	0	50K		<b>Flash Flood</b>
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Thunderstorms during the late evening of the 22nd, into early morning of the 23rd produced a couple of tornados, flash flooding, small stream flooding, and damaging winds.

A tornado developed in a cornfield about 2 miles south-southwest of Crystal Hill in Halifax County, and traveled north-northeast about 0.6 miles before dissipating. This tornado was about 30 yards wide. It knocked down trees, with one falling on a house, resulting in gutter and siding damage.

Another tornado developed 4 miles east of Halifax, in Halifax County, and traveled a quarter mile to the north-northeast before dissipating. This tornado was about 30 yards wide. It snapped off numerous trees, and ripped shingles off the roof of a house.

# Storm Data and Unusual Weather Phenomena

September 2003

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## VIRGINIA, Southwest

Heavy thunderstorm rains produced flash flooding of the South River near Riverside with damage to several homes. Small stream flooding occurred across the western part of Henry County. Big Toby Creek, 1 mile north-northwest of Paces, overflowed its banks, and flooded Ashton Hall Road.

Thunderstorm winds downed trees, with damage to a home, in Lynchburg, and a home 5 miles east of Halifax.

### VAZ058>059

#### Halifax - Charlotte

23	1445EST	0	0	Flood
25	1730EST			

Heavy rainfall during the evening hours on the 22nd and early morning hours on the 23rd resulted in minor flooding on portions of the Roanoke and Dan Rivers.

The Dan River crested almost a foot above flood stage at Paces at 300 PM on the 24th and almost 5 feet above flood stage at 1030 PM on the 24th at South Boston. The Roanoke River crested almost 2 feet above flood stage at Randolph at 4 AM on the 24th.

#### Alleghany County West Portion

27	1555EST	0	0	0	Thunderstorm Wind (G60)
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#### Covington (C) Covington

27	1620EST 1800EST	0	0	Flash Flood
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#### Botetourt County 5 N Eagle Rock

27	1705EST	0	0	0	Thunderstorm Wind (G60)
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#### Giles County Central Portion

27	1710EST 1800EST	0	0	Flash Flood
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#### Pittsylvania County Chatham

27	1915EST	0	0	0	Thunderstorm Wind (G60)
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Thunderstorms during the afternoon of the 27th produced damaging winds and flash flooding.

Heavy thunderstorm rains caused mudslides that closed Route 18 near Covington. Heavy thunderstorm rains also caused flash flooding in central Giles County with several roads closed, and Grey Sulfur Road washed out.

Thunderstorm winds downed trees across western Alleghany County, 5 miles north of Eagle Rock, and in and around Chatham.

## WASHINGTON, Northeast

### WAZ043

#### Okanogan Valley

11	2300PST	0	0	High Wind (G71)
12	0300PST			

A strong cold front moved through the Okanogan River valley during the early morning hours of September 12th creating local high winds. In Tonasket trees were blown. The Kramer Remote Automated Weather Station recorded a wind gust of 71 mph.

#### Spokane County Spokane

16	1530PST 1600PST	0	10	50K	Hail (0.25)
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During the afternoon of September 19th an isolated rain shower with small hail moved over the Spokane area. On the westbound lane of Interstate 90 drivers were blinded by the low sun shining in their eyes while small hail created slippery conditions. Over 50 cars and trucks were involved in numerous accidents and pileups along a four mile stretch of westbound I-90 in the city of Spokane.

## WASHINGTON, Northwest

#### King County Kirkland to Duvall

08	0200PST 0700PST	0	0	5K	Heavy Rain
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After about a month with little or no rainfall, a few heavy showers opened up over eastern King and Snohomish counties. Up to 1.5 inches fell in Kirkland, where a couple of homes and a church were flooded. In Duvall, 3500 customers lost power due to toppled trees.

## WASHINGTON, Southeast

#### Kittitas County 10 N Roslyn

01	0000PST	0	0	Wildfire
30	2359PST			

The Square Lake Fire began on August 25th, and burned a total of 1,097 acres. The fire was a lightning sparked fire, and became completely contained on September 30th.

#### Kittitas County 22 ENE Cle Elum

24	0000PST	0	0	Wildfire
30	2359PST			

The Crystal Creek Fire was a lightning sparked fire which burned 1,584 acres. The fire became completely contained on October 14th.

# Storm Data and Unusual Weather Phenomena

September 2003

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## WASHINGTON, Southwest

NONE REPORTED.

## WEST VIRGINIA, East

NOT RECEIVED.

## WEST VIRGINIA, North

### **Preston County**

<b>Bull Run</b>	<b>01</b>	<b>1725EST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
		<b>1825EST</b>							
Road flooded along Bull Run.									

### **Preston County**

<b>Newburg</b>	<b>01</b>	<b>1805EST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
		<b>1900EST</b>							
Road flooded.									

### **Preston County**

<b>Masontown</b>	<b>01</b>	<b>1835EST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
		<b>1930EST</b>							
Road flooded.									

### **Marion County**

<b>Fairmont</b>	<b>01</b>	<b>1845EST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
		<b>2000EST</b>							
Flooding along Pleasant Valley Rd and East Park Rd.									

### **Monongalia County**

<b>Morgantown</b>	<b>01</b>	<b>1845EST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
		<b>2000EST</b>							
Flooding along Falling Run Rd and Summer School Rd.									

### **Monongalia County**

<b>Morgantown</b>	<b>01</b>	<b>2345EST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
	<b>02</b>	<b>0045EST</b>							
State Route 7 flooded.									

### **Preston County**

<b>Masontown</b>	<b>01</b>	<b>2345EST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
	<b>02</b>	<b>0130EST</b>							
Several roads flooded.									

### **Preston County**

<b>Newburg</b>	<b>02</b>	<b>0000EST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
		<b>0100EST</b>							
State Route 92 flooded.									

### **Preston County**

<b>Terra Alta</b>	<b>02</b>	<b>0000EST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
		<b>0130EST</b>							
Salt Lick Road flooded.									

### **Marion County**

<b>Colfax</b>	<b>02</b>	<b>0130EST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
		<b>0145EST</b>							
Coal Bank Hill Road flooded near Colfax.									

### **Tucker County**

<b>Coketon</b>	<b>09</b>	<b>0330EST</b>			<b>0</b>	<b>0</b>			<b>Flash Flood</b>
		<b>0415EST</b>							
Route 32 and several roads flooded by overflowing Blackwater River.									

### **WVZ023-041**

#### **Preston - Tucker**

<b>18</b>	<b>2200EST</b>	<b>0</b>	<b>0</b>	<b>4K</b>	<b>High Wind (G52)</b>
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Remnants of Hurricane Isabel caused wind gusts in the neighborhood of 60 mph, knocking down trees and utility lines in various sections of these counties. Isabel passed over Pittsburgh Pa around 8 AM EDT on the 19th. Wind gusts from Isabel started after 7 PM on the 18th and continued, from time to time, through the afternoon of the 19th.

### **WVZ041**

#### **Tucker**

<b>19</b>	<b>0415EST</b>	<b>0</b>	<b>0</b>	<b>Flood</b>
	<b>0700EST</b>			

Numerous roads remained flooded.

# Storm Data and Unusual Weather Phenomena

September 2003

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## WEST VIRGINIA, North

**WVZ023**

**Preston**

**19 1100EST  
1600EST**

**0 0**

**Flood**

Remnants of Hurricane Isabel dumped nearly 4 inches of rain on the headwaters of the Cheat River. At Rowlesburg, the Cheat River rose from 4 ft at 630 AM EDT on the 19th to flood stage, which is 16 ft, at Noon. It crested at 16.8 ft at 1 PM EDT, and fell below flood stage by 5 PM EDT. Numerous small streams and roads were flooded in Preston and Tucker County in WV, as well as Garrett County MD.

**Preston County  
Howesville**

**27 1455EST**

**0 0**

**2K**

**Thunderstorm Wind (G50)**

Trees down on Route 26.

**Preston County  
Tunnelton**

**27 1526EST**

**0 0**

**Thunderstorm Wind (G50)**

Trees down.

## WEST VIRGINIA, Southeast

NONE REPORTED.

## WEST VIRGINIA, West

**Jackson County  
Evans**

**01 1520EST**

**0 0**

**Thunderstorm Wind (G50)**

Power lines and a power pole were knocked down along Route 87.

**WVZ007>008-016-018-  
028>029**

**Mason - Jackson - Roane - Calhoun - Braxton - Gilmer  
02 0900EST  
1530EST**

**0 0**

**300K**

**Flood**

South of a strong frontal zone, rain of 2 to 4 inches fell in a narrow west to east band, from the evening on the 1st, through the afternoon on the 2nd. The heaviest rain appeared across central Jackson County, near Ripley, through northern Roane County, around Spencer and Reedy. The heavy rain continued east into central Calhoun County and southern Gilmer County. A spotter near Normantown of Gilmer County reported 4 inches of rain. An automated rain gauge near Mt Zion of Calhoun County reported 3.7 inches of rain. The cooperative observer at Ripley measured 3.1 inches of rain.

By late morning on the 2nd, several roads were covered and damaged by water from overflowing small streams. A Jackson County highway supervisor said, "water over the roads was our biggest problem". The basement area of the Normantown Elementary School in Gilmer County was flooded by Steer Creek. About 4 inches of water covered the basement hallway, with lesser amounts in the basement's 4 classrooms and 2 bathrooms. Water flooded the school's locker room and came within one step of flowing across the gym floor. Gilmer County volunteer firefighters helped moved school supplies and equipment from the basement to lessen the damage. The 4 teachers and principal moved the 60 students to the higher gym, until buses arrived to take the students home. Some students had to go to the high school until the water receded. The first year principal said, "we were prepared but I was not expecting something this major to happen so soon". At Sand Fork Elementary School, about a dozen students remained after an early dismissal. Many other school systems closed early for the day. In Calhoun County, one house had 18 inches of water inside. In Jackson County, one house in the Little Creek area sustained water damage. In Reedy of Roane County, water got into the community building and into the fire house.

The Little Kanawha River had a strong 13 foot vertical rise on the 2nd. Yet, the late evening crest remained below flood stage.

**WVZ013-025>026-  
034>035**

**Lincoln - Logan - Boone - Wyoming - Raleigh**

**04 0600EST  
1100EST**

**0 0**

**125K**

**Flood**

The last wave of rain, along a strong frontal boundary, hit the southern coal fields counties from the predawn through the late morning on the 4th. Rain of 2 to 3.5 inches fell. The cooperative observer in Beckley measured 3.52 inches. The Beckley airport and Oceana both had 3.25 inches. Dry Creek had 3.1 inches of rain. Whitesville of eastern Boone County saw 2.6 inches.

In Lincoln County, Frances Creek got into a few homes near Harts. In Logan County, 2 houses received water damage. Near Chapmanville in Logan County, private bridges on Garrett Fork were damaged. Several roads were flooded throughout these counties.

**Pocahontas County  
Bartow**

**19 0100EST  
0230EST**

**0 0**

**1K**

**Flash Flood**

Small streams feeding into the East Fork of the Greenbrier River flooded. The cooperative observer at Bartow measured 2.4 inches of rain.

# Storm Data and Unusual Weather Phenomena

September 2003

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons Killed	Injured	Estimated Damage Property	Crops	Character of Storm
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## WEST VIRGINIA, West

### **Randolph County**

<b>Northeast Portion</b>	<b>19</b>	<b>0115EST</b>			<b>0</b>	<b>0</b>	<b>2K</b>		<b>Flash Flood</b>
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Water was 2 feet deep across Route 29 near Job and Whitmer. The nearby observer at Gladly measured a 24 hour rain total of 3.1 inches. Along the Randolph and Tucker County border, portions of the stream bank along Red Creek were damaged. Future high water would threaten the few dwellings.

Steady rains from the remnants of Hurricane Isabel caused swollen streams by late on the 18th. Embedded showers early on the 19th caused small streams to flood roads. In terms of dwellings, only one old mobile home at Gladly was damaged.

The presidential disaster declaration included counties as far west as Randolph County. See FEMA disaster number 1496 for details.

### **Upshur County**

<b>Queens</b>	<b>21</b>	<b>1730EST</b>			<b>0</b>	<b>0</b>	<b>1K</b>		<b>Flash Flood</b>
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A nearly stationary thunderstorm formed along the county border between Upshur and Randolph Counties. Near Laurel Run, rains of around 2 inches likely fell in one hour. Roads were flooded and slightly damaged. No dwellings were affected.

## WISCONSIN, Northeast

NONE REPORTED.

## WISCONSIN, Northwest

NONE REPORTED.

## WISCONSIN, Southeast

**WIZ046>047-051>052- Marquette - Green Lake - Fond Du Lac - Sheboygan - Sauk - Columbia - Dodge - Washington - Ozaukee - Iowa**  
**056>060-062>072 - Dane - Jefferson - Waukesha - Milwaukee - Lafayette - Green - Rock - Walworth - Racine - Kenosha**

<b>01</b>	<b>0000CST</b>	<b>0</b>	<b>0</b>	<b>Drought</b>
<b>30</b>	<b>2359CST</b>			

Drought conditions continued from August, 2003, through September 2003, across south-central and southeast Wisconsin. Much of this area was in a severe drought (D2) status during the first part of the month, however, beneficial rains fell during the period of September 12-14. Rainfalls of 3 to 5 inches from Lafayette County to Green Lake County (with a small area of 6 inches in southwest Iowa County and northwest Lafayette County) were enough to lower the drought rating from severe to moderate (D1) in this area. However, monthly rainfall totals of about 2 inches or less were recorded near Lake Michigan, which allowed the drought rating over southeast Wisconsin to remain at severe. The monthly rainfall at Madison's (Dane Co.) Truax Field was 4.24 inches, or 1.16 above normal. This was only the 3rd month of the entire year to date that had above normal rainfall. The other two months (May and July) were barely above normal in the rainfall department. At Milwaukee's (Milwaukee Co.) Mitchell Field, only 1.65 inches of rain fell during September, 2003, or 1.65 inches below normal. May, 2003 was the only month to date in 2003 with above normal rainfall at Milwaukee (0.59 inch above normal). Water levels in lakes, rivers, and streams remained below normal for the entire month, although they briefly rose on September 13th and 14th in response to the rains. Newspaper reports indicated that corn yields were expected to be in the 70 to 100 bushels per acre range, compared to a normal of 130 to 140. Soybean yields were expected to range from 20 to 30 bushels per acre, about 50% of normal. In fact, some farmers were not expecting to harvest much of anything in October. Some parts of south-central and southeast Wisconsin have only received half of their normal precipitation from November, 2002 through September, 2003. However, some spotty locations in 2003 have managed to pick up enough rain to have near average crop yields. Some farmers felt that the drought in 2003 was perhaps as bad as the 1988 drought, or worse, and that one would have to go back to 1933 to find a summer as dry as the 2003 summer. Throughout south-central and southeast Wisconsin, some trees continued to drop their leaves (without color) due to the continued dryness.

## WISCONSIN, Southwest

NONE REPORTED.

## WISCONSIN, West

NONE REPORTED.

## WYOMING, Central and West

### **Teton County**

<b>10 E Fishing Bridge</b>	<b>01</b>	<b>0000MST</b>	<b>0</b>	<b>0</b>	<b>Wildfire</b>
	<b>13</b>	<b>0800MST</b>			

The East Wildfire continued to burn into early September. The fire burned a total of 23,500 acres in August and September. The total estimated cost of fighting the fire was 6.9 million dollars.

### **Park County**

<b>25 SW Cody</b>	<b>01</b>	<b>0000MST</b>	<b>0</b>	<b>0</b>	<b>Wildfire</b>
	<b>04</b>	<b>0800MST</b>			

# Storm Data and Unusual Weather Phenomena

September 2003

Location	Date	Time Local/ Standard	Path Length (Miles)	Path Width (Yards)	Number of Persons		Estimated Damage		Character of Storm
					Killed	Injured	Property	Crops	

## WYOMING, Central and West

The Boulder Basin Wildfire continued to burn into early September. The fire burned a total of 11,553 acres in August and September. The estimated total cost of fighting the fire was 1.9 million dollars.

### **Park County**

30 W Cody

01 0000MST  
06 1000MST

0 0

Wildfire

The Blackwater Wildfire continued to burn into early September. A total of 6,805 acres were burned. The estimated cost of fighting the fire was 1.2 million dollars.

### **Natrona County**

19 N Casper

08 1530MST  
1535MST

0 0 0 0

Tornado (F0)

At 330 pm MST, law enforcement reported a tornado 19 N of Casper. One mobile home sustained heavy damage.

WYZ002-008-014>015-017

**Absaroka Mountains - Bighorn Mountains West - Wind River Mountains West - Wind River Mountains East - Wind River Basin**

16 2100MST  
17 2100MST

0 0

Heavy Snow

An early season storm system brought heavy snow to parts of northern and central Wyoming. Snowfall amounts ranged from 3 to 6 inches in the lower elevations to 7 to 15 inches in the mountains.

## WYOMING, Extreme Southwest

NONE REPORTED.

## WYOMING, North Central

NOT RECEIVED.

## WYOMING, Northeast

NONE REPORTED.

## WYOMING, Southeast

NONE REPORTED.